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ACADEMIC ACHIEVEMENT OF THE CVIF-DLP-APPROACH IN ONE SHS STEM CLASS ACROSS FIVE COURSES

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ABSTRACT

Innovative educational programs play a significant role in shaping the academic landscape to enhance teaching and learning quality. The Bernido couple's pioneering efforts have led to the development of the Central Visayan Institute Foundation-Dynamic Learning Program (CVIF-DLP), which has been embraced by institutions like Arellano University. At Arellano University, the Bernido couple introduced and implemented the CVIF-DLP curriculum, providing students with the autonomy to construct their own learning experiences. The implementation of CVIF-DLP at Arellano University began in 2009 after the Bernido couple trained the faculty on its principles and methodologies across the elementary and high school departments. This study aims to investigate the potential impact of the CVIF-DLP Approach on the teaching and learning of key subjects including Statistics, Calculus, Biology, Chemistry, and Physics among grade 10 students at Arellano University. Employing an Ex-post facto research design, this study examines the academic performance of a STEM class at AU-SHS across these five courses. This design enables the exploration of relationships between the independent variable (CVIF-DLP implementation) and the dependent variable (academic achievement) without direct intervention.The study's findings reveal a homogeneous distribution of scores across all five courses. It suggests the need for customization of the DLP-approach to cater to the unique demands of each subject. It advocates for the adaptation of teaching strategies, resources, and assessments to address the specific requirements of Physics, Biology, Chemistry, Calculus, and Statistics. Furthermore, the study recommends further research to delve into specific aspects of the CVIF-DLP teaching approach, such as its impact on

students' ability to assume ownership of their learning and the dynamics between teachers of different subjects under the CVIF-DLP framework.

Keywords: *CVIF-DLP Approach, academic achievement, learning, STEM*

INTRODUCTION

In the pursuit of enhancing the quality of teaching and learning, educational programs that embrace innovation play a pivotal role in shaping the academic landscape. One such initiative, known as the Central Visayan Institute Foundation-Dynamic Learning Program (CVIF-DLP) Dynamic), has been introduced in the Central Visayas by the visionary efforts of the Bernido couple.

The Central Visayan Institute Foundation-Dynamic Learning Program (CVIF-DLP) pioneered by Christopher C. Bernido and Maria Victoria Bernido, stands as a testament to the commitment to revolutionize education. This program is designed to cultivate a dynamic, learner-centered environment, fostering active student engagement and critical thinking skills. As this innovative approach gains momentum in Central Visayas, it is essential to evaluate its impact on diverse academic disciplines. The Dynamic Learning Program is based on the premise of "learning by doing," it is student-centered, and it is a teaching approach that emphasizes student action rather than typical classroom lectures. Students study independently in this program since each activity has a clear learning goal. According to (Marpa, 2016), DLP is a teaching system that focuses on students' activities rather than typical classroom lectures, where pupils learn individually because activities are offered with clear and precise learning outcomes.

Arellano University is one of the well-known universities that has implemented the Dynamic Learning Program (DLP), a revolutionary learning approach. The Bernido couple recommended this concept for adoption at Arellano University. The learner must have the freedom to develop his or her own learning in this strategy. The learner's prior experience is critical for transferring new knowledge promptly. Furthermore, the learner must be willing to learn. The learners' orientation is crucial; that is, this method is student centered rather than subject oriented (Gambayan, 2014). According to the study of Delos Reyes,
R.D.G (2020), the finding resulted in several mitigating factors, including the teaching technique itself and a good guidance program. More research on the CVIF-DLP teaching strategy, its effect on learner autonomy, and a full description of the rapport among specific topic teachers are recommended for a more in-depth understanding.

The STEM (Science, Technology, Engineering, and Mathematics) curriculum is renowned for its emphasis on rigorous academic content and practical application of knowledge. As educational institutions strive to prepare students for the demands of the 21st century, the integration of innovative teaching methods becomes imperative. In the study of Bernido, C.C., Bernido, M.V. (2020), the challenges of providing quality education for the general population, in the arts and social sciences, and especially in science, technology, engineering, and mathematics (STEM), remain difficult.

Thus, the researchers attempt to uncover the potential effects of the DLP Approach in the teaching and learning of Statistics, Calculus, Biology, Chemistry, and Physics by grade 10 students at Arellano University, which began implementing DLP in the

elementary and high school departments in 2009 after the Bernido couple oriented and trained the faculty on how it should be implemented. Since then, only Gambayan has conducted research that has demonstrated its efficiency in the teaching and learning of reading by Grade 10 students.

Through this research, the researchers aspire to contribute to the continual enhancement of educational practices and student learning experiences in the STEM field.

Research Questions

To give light to the problem, the researchers sought answers to the following questions:

1. What will be the description of one AU SHS-STEM class in:
    1.1. Statistics,
    1.2. Calculus,
    1.3. Physics,
    1.4. Biology and
    1.5. Chemistry?
2. Will there be a significant difference from:
    2.1. Statistics to Calculus,
    2.2. Calculus to Physics and
    2.3. Biology to Chemistry?
3. Will there be a significant relationship from:
    3.1. Biology to Chemistry,
    3.2. Biology to Physics,
    ` 3.3. Calculus to Physics and
    3.4. Chemistry to Physics?

METHODOLOGY

This study employs an Ex-post facto research design to examine the academic achievement of the Dynamic Learning Program (DLP)-Approach in one AU-SHS STEM class across five courses. The use of this design allows for the exploration of relationships between the independent variable (implementation of the DLP-Approach) and the dependent variable (academic achievement) without direct manipulation.

The participants will consist of students enrolled in the specified AU-SHS STEM class Academic Year 2021-2022. The sample size will be determined based on the availability of data and the number of students present in the selected courses. Cumulative academic records, including grades, scores, and assessments, will be collected for each student across the specified course.

Descriptive statistics, such as means and standard deviations, will be computed to describe academic achievement. Inferential statistics, such as ANOVA or t-tests, will be applied to identify any significant differences between groups.

Informed consent will be obtained from participants, ensuring they are fully aware of the study's purpose and procedures. Participants confidentiality and anonymity will be maintained throughout the study.

The study's retrospective nature may limit the control over confounding variables. Causality cannot be established due to the Ex-post facto design.

RESULTS AND DISCUSSION

Table 1

Physics		Biology		Calculus		Chemistry		Statistics	
Mean	19.58	Mean	16.8	Mean	12.44	Mean	16.7	Mean	18.86

Table 1 reveals that means of all the five courses have a verbal interpretation of poor performance. The verbal interpretation of "poor performance" suggests that, on average, students in all five courses have achieved scores that are considered below a satisfactory or acceptable level. The collective average performance across all courses is indicating a need for improvement. It suggests that, as a group, students are facing challenges in achieving higher scores in their respective courses. While the overall mean suggests poor performance, it would be valuable to examine individual course means to identify specific areas of concern.

Table 2

Score Range	Physics	Biology	Calculus	Chemistry	Statistics	Description
41-50						Outstanding
31-40	3					Very good
21-30	21	8	1	7	17	Good
11-20	22	39	34	41	32	Poor
1-10	4	3	15	2	1	Very Poor
0						No Learning
Total	50	50	50	50	50	

Table 2 shows the frequency distribution of scores of the five courses. It provides a breakdown of the scores achieved by students in each of the five courses.

Table 3

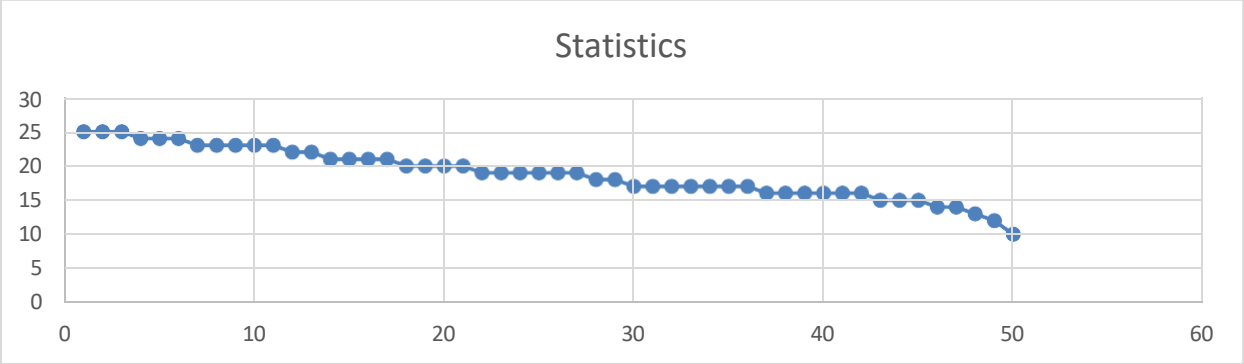


Table 3 shows that the homogeneity of the STEM students in Statistics course is classified as poor students. The classification as "Poor" indicates that there is a notable lack of uniformity or consistency in the students' performance in the Statistics course. This classification prompts teachers and administrators to explore strategies for improving overall understanding and achievement in Statistics within this specific group of students.

Table 4

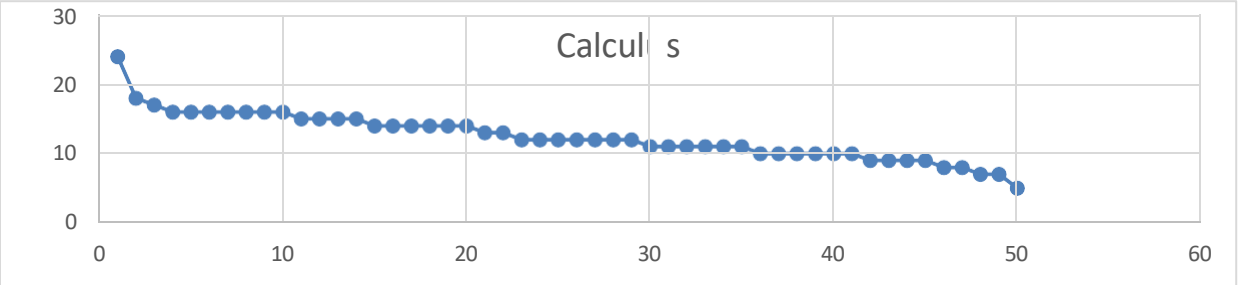


Table 4 shows that the homogeneity of the STEM 6 in Calculus course is classified as poor students. This indicates that the group of students in STEM 6, specifically in the Calculus course, demonstrates a notable lack of uniformity or similarity in their performance. The students in STEM 6 exhibit diverse levels of understanding or proficiency in Calculus. There is significant spread of scores, with some students performing well while others struggle in the Calculus course. This suggests a potential need for targeted interventions or instructional adjustments to address the varying levels of preparedness or grasp of the subject matter.

Table 5

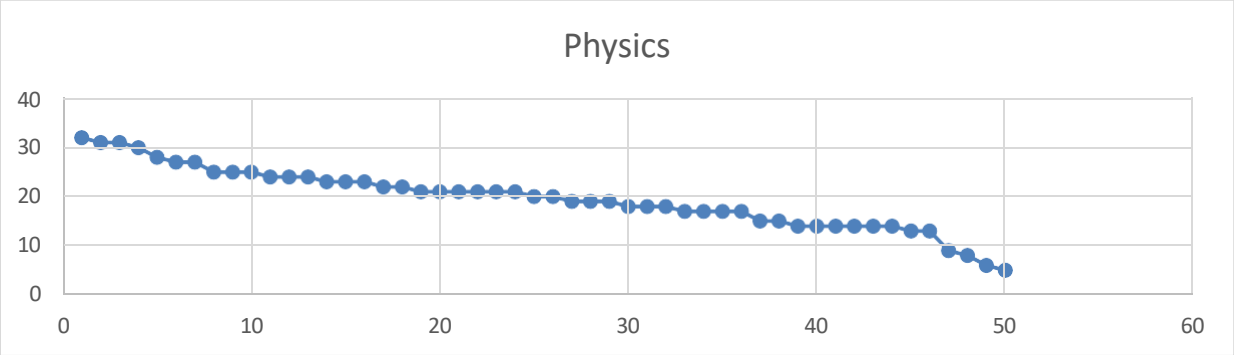


Table 5 shows the homogeneity that the STEM 6 in Physics course is classified as between good and poor students. The students exhibit a mix of proficiency levels in the Physics course, with some performing at a good level and others at a lower, potentially poor level.

This classification implies a moderate need for targeted interventions or instructional adjustments to address the varying levels of preparedness or understanding within the group.

Table 6

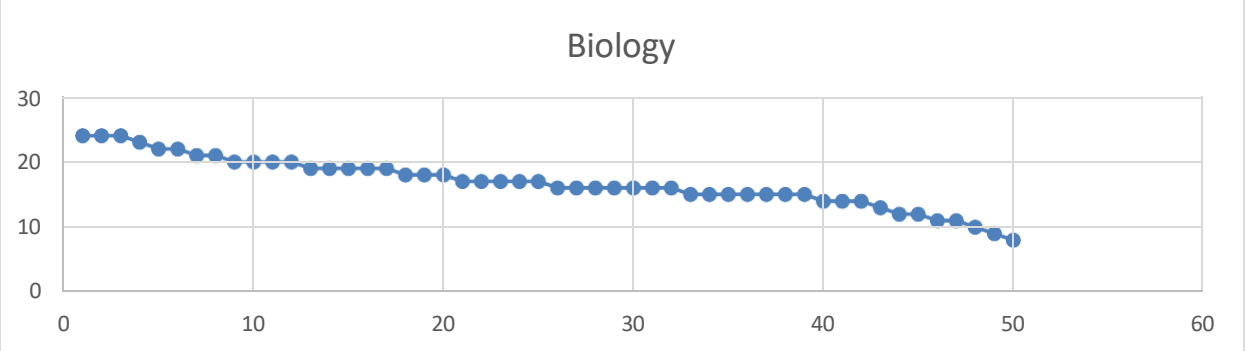


Table 6 shows the homogeneity that the STEM 6 in Biology course is classified as between good and poor students. The classification as "between good and poor" indicates a moderate level of diversity or variability in the students' performance in the Biology course. Some students may be performing well, while others may be struggling to a certain extent. The students in STEM 6 exhibit a mix of proficiency levels in the Biology course, with some performing at a good level and others at a lower, potentially poor level. This classification suggests a moderate need for targeted interventions or instructional adjustments to address the varying levels of preparedness or understanding within the group.

Table 7

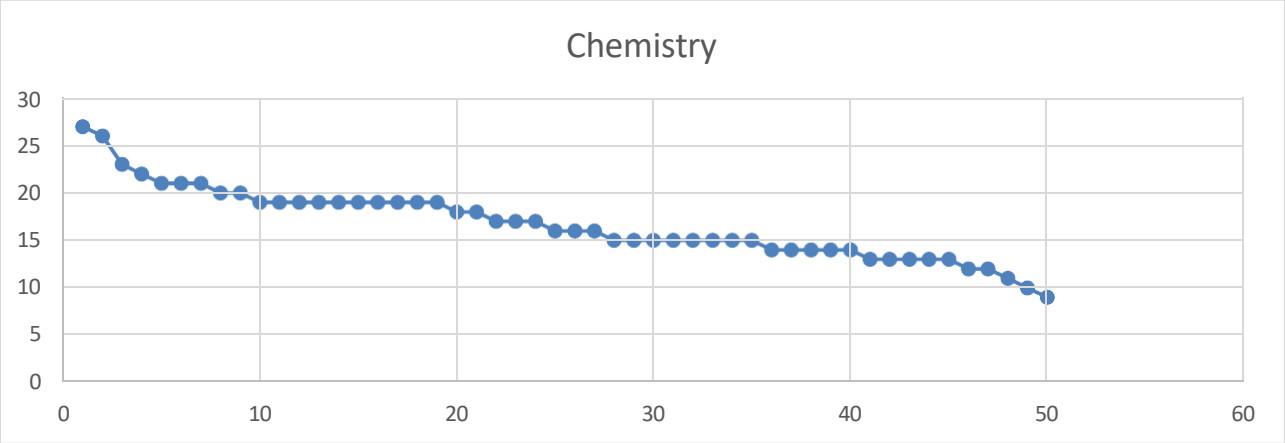


Table 7 shows the homogeneity that the STEM 6 in Chemistry course is classified as between good and poor students. The classification as "between good and poor" suggests a moderate level of diversity or variability in the students' performance in the Chemistry course. Some students may be performing well, while others may be struggling to a certain extent.

Table 8

Subjects to be compared	P Value	Level of Significance	Interpretation	Decision
Statistics and Calculus	7.67 E-12	0.05	Significant	Reject the Ho
Calculus and Physics	3.99 E-21	0.05	Significant	Reject the Ho
Biology and Chemistry	0.87	0.05	Not Significant	Accept the Ho

Table 8 shows the comparison of Statistics and Calculus had P value of 7.67E- 12 which is interpreted as reject the Ho, while Calculus and Physics had a P value of
3.99E-21 which is interpreted as reject the Ho, and lastly Biology to Chemistry had a P value of 0.87 which is interpreted as accept the Ho.

The Statistics and Calculus groups and the Calculus and Physics groups show statistically significant differences based on the extremely small p-values, leading to the rejection of the null hypothesis.

On the other hand, the Biology and Chemistry groups do not show statistically significant differences, as indicated by the larger p-value, leading to the acceptance of the null hypothesis.

Table 9

Subjects to be correlated	R	Description	P value	Level of Significance	Interpretation	Decision
Biology to Chemistry	0.31	Moderately Weak Positive	0.027	0.05	Significant	Reject the Ho
Biology to Physics	0.43	Moderately Weak Positive	0.43	0.05	Not Significant	Accept the Ho
Calculus to Physics	0.23	Weak Positive	0.10	0.05	Not Significant	Accept the Ho
Chemistry to Physics	0.27	Weak Positive	0.050	0.05	Significant	Reject the Ho

Table 9 show that the relationship between Biology to Chemistry had a value of r 0.31 with a description of moderately weak positive and got the P value of 0.027 which interpreted as reject the Ho. While between Biology to Physics had a value of r 0.43 with a description of Moderately weak positive and go the P value of 0.43 which interpreted as accept the Ho. While between Calculus to Physics had a value of r 0.23 with a description of weak positive and go the P value of 0.10 which interpreted as accept the Ho, and lastly between Chemistry to Physics had a value of r 0.27 with a description of weak positive and go the P value of 0.05 which interpreted as reject the Ho.

There is evidence of a statistically significant, moderately weak positive correlation between Biology and Chemistry, as well as between Chemistry and Physics.

There is no statistically significant correlation between Biology and Physics or between Calculus and Physics based on the given p-values.

The correlation coefficient values indicate the strength and direction of the relationships, with all described as weak to moderately weak positive correlations.

It is consistent to the study of Delos Reyes, R.D.G (2020), the finding resulted in several mitigating factors, including the teaching technique itself and a good guidance program. More research on the CVIF-DLP teaching strategy, its effect on learner autonomy, and a full description of the rapport among specific topic teachers are recommended for a more in-depth understanding. The use of DLP should be given more attention, but teachers should also be encouraged to change their techniques because the appropriateness of the approach to be utilized in a particular topic is highly crucial. (Marpa, 2016). Based on the findings of the study of Basilio (2009), there is no significant difference in the posttests scores of students with no experience of the DLP and those who are exposed to it.

Conclusions

1. As impoverished students, the means and frequency distribution of the scores for all five courses are homogeneous. There may be various elements to consider and choose from when categorizing individual learning styles.
2. When comparing courses, the researchers discover three patterns: math versus math, math versus science, and science versus science. The courses Statistics and Calculus, which had a verbal meaning of significant, followed the pattern from math to math. The researchers discover that Calculus is a higher form of mathematical concepts that distinguishes Statistics from Calculus. The second pattern demonstrates that Calculus and Physics differ significantly in that Physics can be viewed in a traditional approach that does not require prior knowledge in Calculus. The third pattern demonstrates that there is no significant distinction between Biology and Chemistry because some concepts in the two courses differ even though they belong to the same discipline of study.
3. The significance of the interaction between biology and chemistry explains why students obtain correlational learning between biology and chemistry. As a result, the difference between Biology and Physics is insignificant because most of the concepts are unrelated. While Calculus to Physics is not significant because the teacher may not have used Calculus principles in teaching Physics. Finally, the relationship between Chemistry and Physics is significant because Chemistry concepts can be applied in Physics.

Recommendations

The researchers recommended the following to the AU-SHS STEM class to optimize the benefits of the DLP-Approach and create a learning environment that nurtures curiosity, critical thinking, and interdisciplinary connections across the five courses.

1. Tailor the DLP-Approach to the specific needs and characteristics of each course. Customize instructional strategies, resources, and assessments to align with the unique requirements of Physics, Biology, Chemistry, Calculus, and Statistics.
2. Offer targeted professional development sessions for teachers to enhance their understanding and proficiency in implementing the DLP-Approach across diverse subjects. Focus on subject-specific pedagogy and strategies that align with the principles of dynamic learning.

3. Establish a system for ongoing teacher support, mentorship, and collaborative learning communities. Foster a culture of continuous improvement by providing resources, feedback, and opportunities for shared reflection among educators.
4. Emphasize the integration of real-world applications in each course to enhance students' understanding and appreciation of the relevance of their learning. Design projects and activities that bridge theoretical knowledge with practical, real-life scenarios.
5. Ensure that assessments align with the objectives and learning outcomes of each course under the DLP-Approach. Implement a variety of assessment methods, including formative and summative assessments, to capture the diverse aspects of student learning.
6. Establish effective feedback mechanisms for both students and teachers. Encourage a feedback loop where students receive timely and constructive feedback on their performance, and teachers receive feedback on the effectiveness of their instructional methods.
7. Strengthen the integration of technology in the classroom to support the DLP- Approach. Ensure that the necessary technological infrastructure is in place to facilitate the seamless use of multimedia, interactive content, and online resources.
8. Prioritize student-centered learning experiences that empower students to take an active role in their education. Foster a learning environment that encourages inquiry, critical thinking, and collaborative problem-solving.
9. Promote interdisciplinary collaboration among teachers to enhance the coherence and synergy across the five courses. Encourage joint planning, collaborative projects, and cross-disciplinary discussions.
10. Involve parents/guardians in the educational process. Share insights into the DLP-Approach, its benefits, and how the parents/guardian can support student learning at home.
11. Establish a long-term monitoring and evaluation plan to track the sustained impact of the DLP-Approach on student outcomes. Regularly assess and adjust the approach based on ongoing evaluations.
12. Additional research in specific areas related to the CVIF-DLP teaching approach to explore how this approach impacts students' ability to take charge of their own learning and to understand the interpersonal dynamics among teachers of different subjects under the CVIF-DLP approach. The appropriateness of the teaching method for a specific topic is highlighted as an important consideration, emphasizing the relevance of aligning instructional strategies with the content being taught.

Compliance with Ethical Standards

I, Dr. Marlowe Louis F. Fabunan, and Dr. Archieval A. Rodriguez, thus declare that all information gathered and made available in this study was received with the consent of the respondents. They were appropriately informed and given the option to withdraw from the study at any time. The respondents' anonymity was maintained, they were not subjected to any form of harm, there was no conflict of interest in the study's conduct, plagiarism was strictly avoided, there was no bias in the interpretation of the findings, and the results were used purely for research.

Acknowledgments

The researchers extend their heartfelt appreciation to all those who have been instrumental in the successful completion of this research project. Their support, guidance, and encouragement have played a significant role in shaping the outcomes of this study.

Above all, to God, the creator of all things. He had given the researchers the gift of knowledge and understanding, which has guided the researchers to this point of fulfilment.

To the faculty members of the School of Education for their constructive feedback and scholarly guidance. Their collective wisdom has enriched the research methodology and contributed to the robustness of the findings.

Special thanks are due to SHS Faculty Members for their support, which has been crucial in the successful execution of this research. Their commitment to fostering academic inquiry has been instrumental in bringing this project to fruition.

Furthermore, the researchers extend their gratitude to their friends and family for their unwavering support, understanding, and encouragement throughout the research journey. Their belief in the abilities of the researchers has been a constant source of motivation.

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A COMPARATIVE STUDY OF THE PERFORMANCE OF THE DIPLOMA STUDENTS IN MATHEMATICS IN THE MODERN WORLD

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ABSTRACT

This study examined the students' performances in their Math entrance examination and Math of the Modern World (MMW) subject. These randomly selected students consisted of 146 Senior High School (SHS) graduates, 67 Basic Education Curriculum graduates (BEC), and 63 Alternative Learning System (ALS) graduates. For data treatment, the tools used were percentage, mean, Pearson Product Moment Correlation Coefficient, and ANOVA. Findings revealed that the entrance examination performance of the SHS and BEC graduates was "average" while the performance of the ALS graduates was "good." Also, these three groups of students had an "average" performance in MMW subject. Furthermore, the study found out that there was a significant difference in the performances of the three groups of students in the entrance examination in favor of the ALS graduates. A significant difference also existed in their performances in MMW subject with SHS graduates performing better than the ALS graduates. Moreover, a significant and moderate relationship existed between the entrance examination performance of the BEC and ALS graduates and their performance in MMW subject.

Keywords*: entrance exam, performance in Math of the Modern World, diploma students, Alternative Learning Systems (ALS), Basic Education Curriculum (BEC), Senior High School (SHS)*

INTRODUCTION

Education is regarded as the most essential tool for attaining success in life. It equips individuals with the right mindset to step forward, excel in their endeavors, and create a positive impact so that they can acquire recognition. Moreover, it provides everyone the ability to think critically, get better decisions to cope with different life challenges, and motivate others so they too can grow on their own chosen path (Dizon et al., 2019).

Abueva (2019) posited that implementing the K-12 Program in the Philippine Curriculum of Basic Education is the key to the growth of the country. Although there have been several problems in terms of its implementation, the K-12 program remains a necessity so that the nation can increase the quality of its education. To meet the needs of the global market where quality education is a must for everyone, the Philippine Educational system adopted a modern and more dynamic curriculum that follows the 12-year program. The K-12 program is aimed at producing more skilled students who have the basic skills necessary for lifelong learning and employment. It also promotes the recognition of Filipino learners and professionals in other countries.

However, illiteracy has been noted as the biggest obstacle to a country's economic growth. Southeast Asian and African countries, for example, have been bombarded with economic crisis brought about by poverty, which is associated with illiteracy. The Philippines has also been tagged as one of the countries that have the highest poverty incidence rates in Southeast Asia. Furthermore, the Out-of-School Children (OSC), Out- of-School Youth (OSYs), and Out-of-School Adults (OSAs) are seen as the most affected by poverty due to the lack of educational opportunities (Apao *et al.*, 2014).

To alleviate the issue, the Alternative Learning System (ALS) was established. ALS is a parallel learning system that is combined with non-formal education and informal sources of knowledge and skills. It is designed to provide all Filipinos the chance to have access to and complete their basic education in a way that fits their distinct situations and needs (DepEd, 2016). The diploma program is supported by Technical Education and Skills Development Authority (TESDA), wherein scholars can avail of a free tuition fee, learning materials allowance, internet allowance, personal protective equipment (PPE) allowance, and 160 pesos allowance per day. It is also anchored on Technical Education and Skills Development Authority **(**TESDA) program *Abot Lahat* whose purpose is to expand and strengthen its mandate and services to all, to reach out and serve new partners and clients with a clear objective, and to transform and improve lives for the better (TESDA, 2015).

In this regard, the researcher of the current study wanted to further investigate how the graduates of ALS, BEC, and SHS are faring academically. Although some researches already examined the performance of students who graduated from BEC, SHS, and ALS, no one studied on the comparison of the performances of these three groups of student graduates.

In conclusion, Technical Education and Skills Development Authority (TESDA) in partnership with educational institutions offers scholarship and caters to the aforementioned groups of graduates. Thus, the researcher decided to pursue this study with the intent to identify and compare the performances of these diploma students.

Research Questions

This study sought to compare the three groups of diploma students' academic performances in the Mathematics in the Modern World Subject. Specifically, it seeks to answer the following questions:

1. What is the performance of the following groups of students in the entrance examination in Mathematics:
    1.1.1 K to 12 Senior High School Graduates (SHS);
    1.1.2 Basic Education Curriculum Graduates (BEC); and
    1.1.3 Alternative Learning System Graduates (ALS)?
2. What is the performance of following groups of students in Mathematics of the Modern World subject?
        2.1.1 K to 12 Senior High School Graduates (SHS);
        2.1.2 Basic Education Curriculum Graduates (BEC); and
        2.1.3 Alternative Learning System Graduates (ALS)?
3 Is there a significant difference in the performance of the 3 groups of respondents in the following:
    3.1 Entrance examination; and
    3.2 Mathematics in the Modern World subject?
4 Is there a significant relationship between the entrance examination results of the students and their performance in the Mathematics in the Modern World subject?

METHODOLOGY

Data and Respondents

The study used the descriptive-comparative method of research. It is descriptive in the sense that the results of entrance examination and the performance of the three groups of students are described. It is also comparative since the study compared the Math performance of these three groups of respondents and their performance in the entrance examination.

The respondents of the study were the 276 diploma students of Metro Dumaguete College for the academic year 2020-2021. They were chosen using a systematic sampling technique wherein every second student in the list is included.

The following data reflect the distribution of the respondents.

Curriculum/Program	Population (N)	Sample (n)
Alternative Learning System (ALS) Graduate	75	63
Senior High School (SHS) Graduate	200	146
Basic Education Curriculum Graduate (BEC)	100	67
Total	**375**	**276**

The data-gathering process concerning students' grades and scores in the entrance examination was conducted in Metro Dumaguete College. Metro Dumaguete College is situated in E.J Blanco Extension, Daro Dumaguete City, Negros Oriental. Being one of the private schools in this so-called "university town," it offers quality education with emphasis on the use of technology. The school has enough learning facilities including Wi-Fi and laboratories. It offers a Senior High School program, as well as TESDA- accredited Technical Vocational courses and four-year college courses. The growing school community necessitated a much larger campus, prompting the administration to seek for a larger and better facility to provide to its consumers.

The Diploma in Tourism Technology, Diploma in Digital Arts Technology, and Diploma in Software Engineering Technology all offered at Metro Dumaguete College. These TESDA courses are integrated into the Commission on Higher Education (CHED) curriculum and are funded by Technical Education and Skills Development Authority (TESDA) to offer students a three-year scholarship.

The researcher used the data depicting the students' performance in the college entrance examination and in Mathematics in the Modern World subject. The Math items were extracted from the Metro Dumaguete College entrance examination.

All the necessary ethical considerations were observed by the researcher during the entire duration of the study. Confidentiality was observed to ensure privacy of the information extracted from the respondents. The researcher also adhered to the ethical protocols stipulated in the Ethics Committee of Foundation University. In addition, the researcher sought permission from the proper authorities before conducting the study.

A written letter was first sent to the school President of Metro Dumaguete College to request for permission to allow the researcher to conduct the study in the campus. After gaining approval of the request, copies of the approved letter were then given to the Vice President of Academic Affairs for the researcher to be allowed to get from the registrar department the data with regard to the students' grades in Mathematics in the Modern World and their entrance examination scores. Afterwards, the results were tabulated and tallied using the MS Excel and then analyzed and interpreted.

Statistical Treatment of the Data

The tools used in analyzing and interpreting the data are the following:

Percentage. This is used to show how a part is related to a whole. In the study, this was used in presenting the profile of the student.

Mean. This was used to show the student's performance in the entrance examination and in Mathematics in the Modern World. The grading system used by Metro Dumaguete College, which consists of the Midterm Exam (40%) and the Final Exam (60%), serves as the basis for the scores.

Numerical Grade	Percentage Rating	Description
1.0	100	Excellent
1.1	98-99	Excellent
1.2	96-97	Excellent
1.3	94-95	Excellent
1.4	92-93	Very Good
1.5	90-91	Very Good
1.6	89	Very Good
1.7	88	Very Good
1.8	87	Good
1.9	86	Good
2.0	85	Good
2.1	84	Good
2.2	83	Average
2.3	82	Average
2.4	81	Average
2.5	80	Average
2.6	79	Below Average
2.7	78	Below Average
2.8	77	Below Average
2.9	76	Below Average
3.0	75	Passing
5.0	74	Failed
OD	OD	Officially Dropped
INC	INC	Incomplete

Pearson Product Moment Coefficient of Correlation. This was used in determining the relationship between the entrance examination scores of the students and their performance in the Mathematics in the Modern World subject. This statistical tool is applicable since the data are classified as ratio scale.

To describe the strength of relationship between the variables, the researcher used the following scale (Statistical Correlation, 2009):

Legend:	Value of r			Strength of Relationship
Between	±0.50 to	± 1.00	-	strong relationship
Between	±0.30 to	± 0.49	-	moderate relationship
Between	±0.10 to	± 0.29	-	weak relationship
Between	±0.01 to	± 0.09	-	very weak relationship

Analysis of Variance. This was used in identifying the significant difference in the performances of the three groups of respondents in the entrance examination and in Mathematics in the Modern World subject.

RESULTS AND DISCUSSION

Table 1 shows the performance of the three groups of students in Mathematics entrance examination. The data reveal that the mean performance of Senior High School (SHS) graduates is 80.34% and the Basic Education Curriculum (BEC) graduates is 82.21%. Both ratings are classified as “average” performance. This means that these graduates have developed the fundamental knowledge, skills, and core understandings in Mathematics and they need only little guidance from the teacher or with some assistance from peers (DepEd Order No. 73, s. 2012).

Meanwhile, the data also expose that ALS graduates have a mean performance of 86.03%, which is classified as a “good” performance. This means that the students at this level have developed the fundamental knowledge, skills, and core understandings of Mathematics, and can transfer them independently through authentic performance tasks (DepEd Order No. 73, s. 2012).

The above finding contradicts that of Remo’s (2019) results. She revealed that students in her study did not perform well in their entrance examination test since most students have conditional status.

College admission exams are standardized examinations that determine students’ chance of pursuing a degree in an academic institution (Bai *et al.*, 2014). As Gomez *et al.* (2012) stressed that a good admission test can predict the students’ academic ability to succeed in his/her chosen program.

Table 1

Performance of the Three Groups of Students in the Entrance Examination in Math

Rating	Verbal Description	Senior High School Graduate (n = 146)		BEC Graduate (n = 67)		ALS Graduate (n = 63)	
		f	%	f	%	f	%
94% 100%	Excellent	28	19.18	15	22.39	18	28.57
88% - 93%	Very Good	21	14.38	6	8.96	12	19.05
84% - 87%	Good	7	4.80	7	10.45	9	14.29
80% - 83%	Average	9	6.16	9	13.43	9	14.29
76% - 79%	Below Average	15	10.27	9	13.43	5	7.93
75%	Passing	0	0.00	0	0.00	0	0.00
≤74%	Failed	66	45.21	21	31.34	10	15.87
Total		146	100.00	67	100.00	63	100.00
Mean		80.34 (Average)		82.21 (Average)		86.03 (Good)	
sd		10.98		10.57		9.66	

Table 2 shows the performance of the three groups of students in Mathematics in the Modern Word (MMW) subject. It divulges that the mean performances of the SHS, BEC, and ALs graduates are 82.23%, 81.82%, and 80.44%, respectively. These ratings are categorized as “average” performance. This means that the three groups of graduates have developed the fundamental knowledge, skills, and core understandings in MMW subject. They can also transfer these understandings through authentic performance tasks (DepEd Order No. 73, s. 2012). This finding is in line with that of Remo (2019). She indicated that most of the students (44%) in MMW have a fair performance with ratings between 80% - 82%.

Table 2

Performance of the Three Groups of Students in Math of the Modern World Subject

Rating	Verbal Description	Senior High School Graduate (n = 146)		BEC Graduate (n = 67)		ALS Graduate (n = 63)	
		f	%	f	%	f	%
94% -100%	Excellent	2	1.37	1	1.49	0	0.00
88% - 93%	Very Good	12	8.22	8	11.94	5	7.94
84% - 87%	Good	39	26.71	12	17.91	9	14.28
80% - 83%	Average	63	43.15	25	37.31	26	41.27
76% - 79%	Below Average	20	13.70	12	17.91	15	23.81
75%	Passing	10	6.85	9	13.44	8	12.70
Total		146	100.00	67		63	100.00
Mean		82.23 (Average)		81.82 (Average)		80.44 (Average)	
sd		4.13		4.92		4.08	

Table 3.1 presents the data identifying the difference in the performances of the three groups of students in the entrance examination. It shows that the mean performances of the three groups of students differ numerically. To test the data statistically, ANOVA test was applied. Results revealed that the computed p-value (0.002) is less than the level of significance (0.05). This finding allows rejection of the null hypothesis. In other words, a significant difference exists among the mean performances of the three groups of students. To test which group is better than the other, a post hoc analysis was applied. The results are presented in Table 3.2.

Table 3.1

Analysis Table on the Difference in the Performance of the Three Groups of Students in the Entrance Examination

Groups of Students	N	Mean	F	p-value	Decision	Remark
Senior High School Graduate	146	80.34				
BEC Graduate	67	82.21	6.35	0.002	Reject H_{o1}	Significant
ALS Graduate	63	86.03				

Level of Significance (α) = 0.05

Table 3.2 shows that the entrance examination performance of the SHS graduates is as good as that of BEC graduates ($p = 0.234 > \alpha = 0.05$). It also reveals that the ALS graduates perform better than the SHS graduates ($p = 0.004 < \alpha = 0.05$). Furthermore, the ALS graduates have a higher performance than the BEC Curriculum graduates ($p = 0.041 < \alpha = 0.05$). This is parallel to the findings of Mercado (2015) who postulated that the ALS in Tanauan had minimal problems in the assessment and evaluation.

Table 3.2
Post Hoc Analysis on the Difference in the Performance of the Three Groups of Students in the Entrance Examination

Paired Variables	p-value	Decision	Remark
SHS vs BEC $\bar{x}_1 = 80.34$; $\bar{x}_2 = 82.21$	0.234	Fail to reject H_{o1}	Not significant
SHS vs ALS $\bar{x}_1 = 80.34$; $\bar{x}_3 = 86.03$	0.004	Reject H_{o1}	Significant
BEC vs ALS $\bar{x}_2 = 82.21$; $\bar{x}_3 = 86.03$	0.041	Reject H_{o1}	Significant

Level of Significance (α) = 0.05

Table 3.3 contains the data identifying the difference in the performances of the three groups of students in their Mathematics in the Modern World subject. It manifests that the computed p-value (0.024) is less than the level of significance (0.05). This finding warrants rejection of the null hypothesis. This means that a significant difference exists among the mean performances of the three groups of students. To test which group is better than the other, a post hoc analysis was applied. The results are presented in Table 3.4.

Table 3.3
Analysis Table on the Difference in the Performance of the Three Groups of Students in the Mathematics in the Modern World Subject

Groups of Students	n	Mean	F	p-value	Decision	Remark
Senior High School Graduate	146	82.23	3.78	0.024	Reject H_{o1}	Significant
BEC Graduate	67	81.82				
ALS Graduate	63	80.44				

Level of Significance (α) = 0.05

Table 3.4 exposes that the SHS graduates' performance in the Math in the Modern World subject is as good as that of BEC graduates ($p = 0.519 > \alpha = 0.05$). It also divulges that SHS graduates performed better than the ALS graduates ($p = 0.007 < \alpha = 0.05$). Furthermore, BEC graduates have more or less the same performance with the ALS graduates ($p = 0.071 > \alpha = 0.05$).

Table 3.4
Post Hoc Analysis *on the Difference in the Performance of the Three Groups of Students in the Mathematics in the Modern World Subject*

Paired Variables	p-value	Decision	Remark
SHS vs BEC $\bar{x}_1 = 82.23$; $\bar{x}_2 = 81.82$	0.519	Fail to reject H_{o1}	Not significant
SHS vs ALS $\bar{x}_1 = 82.23$; $\bar{x}_3 = 80.44$	0.007	Reject H_{o1}	Significant
BEC vs ALS $\bar{x}_2 = 81.82$; $\bar{x}_3 = 80.44$	0.071	Fail to reject H_{o1}	Not significant

Level of Significance (α) = 0.05

Table 4 presents the data identifying the relationship between the performance of the three groups of students in the entrance examination and in Mathematics in the Modern World subject. The data show that the entrance examination performance of the SHS graduates is not significantly related to their performance in Mathematics in the Modern World subject ($p = 0.772 > \alpha = 0.05$). In other words, their prior performance is not a predictor of their performance in Mathematics in the Modern World.

Metli and Özcan (2021) support the current finding. In their study, they found that there is no statistically significant correlation between International Baccalaureate Diploma Program (IBDP) scores and university entrance exam. A similar finding was obtained by HE *et al.* (2015) who claimed that there were no significant correlations between the mathematics test scores in the entrance examination and the academic performance in many subjects.

The present data also point out that the entrance examination performance of the BEC graduates is significantly and moderately ($r = 0.300$) related to their performance in the Mathematics in the Modern World subject ($p = 0.013 < \alpha = 0.05$). This means that the higher the performance of the BEC graduates is in the entrance examination, the higher also is their performance in Mathematics in the Modern World subject.

This result is evident in the study of Fabito *et al.* (2015) who emphasized that the student entrance examination of the National University-Manila is directly correlated with the students' academic performance in the College of Computer and Information Technologies.

Additionally, the data also show that the entrance examination performance of the ALS graduates is significantly and moderately ($r = 0.426$) related to their performance in the Mathematics in the Modern World subject ($p = 0.000 < \alpha = 0.05$). This means that the ALS graduates who have better performance in the entrance examination tend to also exhibit higher performance in the Mathematics in the Modern World subject. This further

implies that the performance of the ALS graduates in entrance examination influences their performance in the Mathematics in the Modern World subject.

Bai *et al.* (2014) support the current finding. In their study, they found that a strong correlation exists between the students' entrance examination and their undergraduate grade point average. In reverse, Agazade *et al.* (2014) found a low correlation between students' academic performance and their entrance exam test.

Table 4

Relationship between the Performance of the Three Groups of Students in Entrance Examination and in Math in the Modern World Subject

Groups of Students	n	r	p-value	Decision	Remark
SHS Graduates	146	0.024	0.772	Fail to reject H_{o2}	Not significant
BEC Graduates	67	0.300	0.013	Reject H_{o2}	Significant
ALS Graduates	63	0.426	0.000	Reject H_{o2}	Significant

Level of Significance (α) = 0.05

Legend: **Value of r** **Strength of Relationship** (Statistical Correlation, 2009)

Between	± 0.50 to ± 1.00	± strong relationship
Between	± 0.30 to ± 0.49	± moderate relationship
Between	± 0.10 to ± 0.29	± weak relationship
Between	± 0.01 to ± 0.09	± very weak relationship

Table 1

Performance of the Three Groups of Students in the Entrance Examination in Math

Rating	Verbal Description	Senior High School Graduate (n = 146)		BEC Graduate (n = 67)		ALS Graduate (n = 63)	
		f	%	f	%	f	%
94% 100%	Excellent	28	19.18	15	22.39	18	28.57
88% - 93%	Very Good	21	14.38	6	8.96	12	19.05
84% - 87%	Good	7	4.80	7	10.45	9	14.29
80% - 83%	Average	9	6.16	9	13.43	9	14.29
76% - 79%	Below Average	15	10.27	9	13.43	5	7.93
75%	Passing	0	0.00	0	0.00	0	0.00
≤74%	Failed	66	45.21	21	31.34	10	15.87
Total		146	100.00	67	100.00	63	100.00
Mean		80.34 (Average)		82.21 (Average)		86.03 (Good)	
sd		10.98		10.57		9.66	

Conclusions

Based on the data collected in this investigation, the following findings are hereby presented:

1. The entrance examination performance of the SHS and BEC graduates is "average" while ALS graduates' entrance examination performance is "good."
2. The Mathematics in the Modern World performance of the SHS, BEC, and ALS graduates is in the "average" level.
3. a) There is a significant difference in the performances of the three groups of students in the entrance examination in favor of the ALS graduates; and
   b) There is a significant difference in the performances of the three groups of students in the Mathematics in the Modern World subject with SHS graduates performing better than the ALS graduates.
4. A significant and moderate relationship exists between the entrance examination performance of the BEC and ALS graduates and their performance in the Mathematics in the Modern World subject.

Recommendations

In light of the findings and conclusions presented, the following are recommended to instructors and school administrators:

1. Process and analyze statistically the results of the entrance examination in order to provide remediation activities to students who have low performance. This will prepare more the students in learning Mathematics of the Modern World subject.
2. Provide feedback to students' performance in the entrance examination for them to be aware of the results and be able to realize their strengths and weaknesses in Mathematics. This will enable them to find ways to improve their performance.
3. Monitor and provide assistance and attention to students enrolled in Mathematics of the Modern World in order to improve their performance from "average" level to "good" or even "excellent" performance.

Compliance with Ethical Standards

For the length of the study, the researcher will demonstrate all relevant ethical principles. The confidentiality of the information will be preserved because humans will be the study's subjects.

All the necessary ethical considerations were observed by the researcher during the entire duration of the study. Confidentiality was observed to ensure privacy of the information extracted from the respondents. The researcher also adhered to the ethical protocols stipulated in the Ethics Committee of Foundation University. In addition, the researcher sought permission from the proper authorities before conducting the study.

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ADMINISTRATIVE EMPOWERMENT VIS A VIS SCHOOL HEAD'S DECISION MAKING: THE CASE OF MBHTE-SULU, BARMM, PHILIPPINES

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ABSTRACT

Since decision making plays a very significant role in managing a school institution, this study therefore sought to determine the administrative empowerment of school heads in selected schools in MBHTE-Sulu, BARMM in terms of school, head's Decision Making. Further, this investigation used descriptive mixed method to find out the level of school head's empowerment. School head and teachers from the different elementary schools were chosen as respondents of the study. In like manner, Self-made questionnaire and interview were used in gathering the data. Meanwhile, frequency counts, mean, t-test and ANOVA were used in the interpretation of data. Meanwhile, the majority of the school heads were male, aged from 56-65, most of them were with masteral degree and have been rendering services from 21-30 years.. The school heads were rated "highly empowered" in terms of decision making, Further, there was no significant difference between male and female on their perspective on the areas of administrative empowerment. Also, there was a significant difference on the perception of the respondents in terms of age. Meanwhile, there was no significant difference on administrative empowerment in decision making in terms of educational qualification and length of services. Moreover, there was a significant difference between the perception of the administrators and the teachers as to decision making.

Keywords: *Administrator, Empowerment, Administrative Empowerment, Decision Making, BARMM*

INTRODUCTION

In the 21st century educational landscape, school principals play a pivotal role in improving learning and attaining educational outcomes which lead them to work under strenuous condition to deal with multifaceted transformational issues (Bogler & Nir : 2012; Bateman : 2010 ; & Block :2023). Administrators experience great difficulty in coping with numerous changes, partly because they are prepared for their leadership position, or simply lack of necessary skills, knowledge and attitudes to lead and manage schools effectively and efficiently. Fundamentally, administrators should be empowered to effectively deal with challenges facing them in this fast-changing techno-era (Abdurahman:2023).

School administrators in Pangutaran District have to cope with litany of changes vis-a-vis the ever-evolving educational dynamism in the playing field. Hence empowerment in decision-making is a must but necessary. In this context, this investigation is delving deeper on how the school administrators of selected elementary schools in the said district have manifest their roles and responsibilities in this modern era.

This study is based on the theory of Ifani (2011) on schools' empowerment issues over the last three decades. She stressed that empowerment is a means to include the team in decision-making. While Terry (2000) asserted that the principal is the central figure in the creation of empowered schools. Hence, Amundsen & Martinsen (2014) and Abdurahman & Omar (2021) believed that empowering leadership is the ability to share power, give freedom and autonomy, delegate responsibility to subordinates that entails enhancing the meaningfulness of work, fostering participation and expressing confidence in decision-making.

The school administrators in the Ministry of Basic Higher and Technical Education (MBHTE) in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) has long been facing dilemma in school the mainstream of school governance. According to Abdurahman (2023) that the school heads have seemingly denied of their rights over major decisions for the improvement of their respective schools. They felt there exist a highly centralized form of governance in the higher echelon of the government bureaucratic setting specifically in school affairs.

Moreover, involvement of school principals in planning instructional programs and activities would make them cooperate with the administration in achieving the desired educational goals. However, the extent and level of principal's empowerment in decision- making is affected by their socio-demographic and academic factors.

In this investigation, the researchers explored the administrative empowerment of school heads in terms of decision-making in Pangutaran District MBHTE-Sulu. This hopes to shed light on importance of promoting a culture of professional development that will prepare principals to confront education challenges and obstacles brought about by the dynamics of the 21st century education landscape.

Research Problems

This study sought to determine the administrative empowerment of school heads in Selected Pubic Elementary Schools in Pangutaran District. Specifically, it answers the following research questions:

1. What is the profile of the school heads in Pangutaran District in the context of gender, age, length of service and educational qualifications?
2. What is the level of administrative empowerment in decision-making at the selected public elementary school administrators in Pangutaran District, MBHTE- Sulu?
3. Is there any significant difference in school administrators' empowerment in decision-making when grouped according to administrators' personal profile with respect to gender, age, length of service and educational qualification?

METHODOLOGY

This section presents the research methodology and procedure used in the study. It contains the research locale, sampling procedure, research instrument, and statistical treatment of data.

Research Locale

The study was conducted in Pangutaran municipality specifically on the selected Public Elementary Schools in Pangutaran District, MBHTE-Sulu of Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), Southern Philippines. The study comprised 30 elementary schools with 25 school principals; five officer's in-charge; and 180 faculty members. While Pangutaran is an island situated about 30 miles north of mainland Sulu. Composed of 16 Barangays with hardworking and hospitable constituents, said municipality is considered one of the peaceful areas in the Province of Sulu.

Sampling Procedure

This is the process of selecting number of individuals from the population such that the selected group contains elements representative of the characteristics found in the entire group called a sample (Kothari :2004), consequently samples can be selected by a sampling design.

The respondents of the study were the twenty (20) school heads and twenty (20) teachers purposively selected from 30 public elementary schools in Pangutaran District, Pangutaran, Sulu. The criteria in selecting the respondents were: (1) school heads and teachers whose residents are in mainland Pangutaran; (2) the school or station where they are assigned or working with; and (3) the availability of their time or the easiest to deal with.

Research Instruments

The main source of the data in this study was the result of the researchers-made- checklist questionnaires. Its reliability was measured using Cronbach's Alpha method to establish correlation between items and questionnaire. This was validated by three panel of experts from *MSU-Sulu Graduate School* namely; *Prof. Melchor B. Ynawat; Prof. Allen*
I. Talikan; and Prof. Nurminie Supian-Udjah,

There were two components of the checklist questionnaire. Part I inquires the profile of the respondents with respect to their gender, age, educational qualification and length of service.; and part II- inquires their perceptions on specific questions leading to determine the level of perceptions on administrators' empowerment in in terms of decision-making situation public school in Pangutaran District, Division of Sulu. The following is the rating scale: 5- Too highly empowered; 4- Highly empowered; 3- Moderately empowered; 2- Less empowered; and 1- Not empowered at all.

The questionnaire was launched to 40 respondents of which 20 were school administrators and 20 teachers. The launching of the questionnaires was personally distributed to the selected school administrators and selected teachers. The respondents were given a time to answer the questionnaire for one week.

The researchers retrieved the questionnaire after duly accomplished by the selected school administrators and selected teachers as respondents. As soon as the questionnaire was collected, the researchers tallied the responses in the SPSS program and further computed to answer the research questions.

Statistical Treatment of Data

The frequency and percentage were used to determine the demographic profile of the school administrators on selected schools in Pangutaran District with respect to their gender, age, length of service and educational qualifications. While mean was employed to determine the level of empowerment in decision-making, formulation and implementation of school policies, and instructional planning. T-test and one-way analysis of variance were utilized to determine the significant difference on the level of administrative empowerment of school heads according to their personal profile. T-test was also used to analyze the difference on the level of school head's administrative empowerment as rated by both the school heads themselves and the teachers.

Scope and Delimitation of the Study

This study aimed at exploring the administrative empowerment of school heads in selected public elementary schools in Pangutaran District, Ministry of Basic Higher and Technical Education (MBHTE-Sulu) , Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), Philippines. This study specifically investigates the profile of the respondents and the perception of both the school heads and the selected elementary school teachers on the administrative decision making of the school administrators. This also include how do these perceptions varies in the context of gender, age, length of service and educational qualification. Further, this study was delimited to 20 selected school administrators and 20 selected elementary school teachers. Other variables of administrative empowerment such as instructional planning and formulation of school

policies were not included in the investigation. However, distance from island schools to other schools was the prominent constraints in the conduct of the study.

RESULTS

This section presents the findings of the study. This includes the profile of the school heads of Pangutaran District; their administrative empowerment in terms of decision making; differences according to their profile in the context of their gender, age, length of service and educational qualification; and the differences on administrative decision making as perceived by the teachers and the administrators themselves.

A. Profile of the School Heads

Table 1 presents the profile of the school heads in Pangutaran District, MBHTE- Sulu. The following distribution were found. As to gender, Majority 55% were male; In terms Age, majority 35% were ranged from 56-65 years old. As to length of service, majority 40% have 31-40 years of teaching experience; and as to educational Qualification, Majority 50% have finished masteral degree.

Table 1: Profile of the School Heads in Pangutaran District

Gender	**Frequency**	**Percent**
Male	11	55
Female	9	45
Age		
25-35 years old	2	10
36-45 years old	6	30
46-55 years old	5	25
56-65 years old	7	35
Length of Service		
10 years below	2	10
11-20 years	6	30
21-30 years	8	40
31-40 years	4	20
41 years and above	0	0
Educational Qualifications		
Bachelor's Degree	0	0
With Master's Units	3	15
Master's Degree	10	50
With Doctoral Units	4	20
Doctoral Degree	3	15

B. Administrative Empowerment in Terms of Decision-Making as Rated by Teachers

Table 2 presents the administrative empowerment in terms of decision making as rated by the elementary school teachers. As such, the overall mean is 4.11 with a verbal description of highly empowered. Whereas, the highest individual mean is 4. 60 and the lowest is 3.65.

Table 2: Administrators Empowerment in Terms of Decision Making as Rated by Teachers

Indicators	Mean	Verbal Description
1. I make decision with the consent and knowledge of my superior.	4.20	Highly Empowered
2. I make decision that suit to my teachers.	4.35	Highly Empowered
3. I make decisions in a logical and systematic way.	4.10	Highly Empowered
4. When making decisions, I consider various options in terms of a specific goal.	4.25	Highly Empowered
5. I make decision to ensure its proper execution.	4.05	Highly Empowered
6. When making decisions, I rely upon my instincts.	3.75	Highly Empowered
7. When making decision, I rely on my intuition.	3.65	Highly Empowered
8. When I make decision, I make sure that it is rational.	4.20	Highly Empowered
9. I seek the advice of other people in making an important decisions.	4.10	Highly Empowered
10. When I am under pressure, I will not decide.	3.80	Highly Empowered
11. I make decision for the development of the school.	4.60	Too highly empowered
12. I consider various factors in making decision.	4.20	Highly Empowered
13. I avoid making important decisions until the pressure is on.	4.00	Highly Empowered
14. I make good and timely decisions, and ensure that they are executed.	4.10	Highly Empowered
15. I make decision based on reliable sources.	4.25	Highly Empowered
Overall Mean	**4.11**	**Highly Empowered**

C. Administrators Empowerment in Terms of Decision Making as Rated by Administrators themselves

Table 3 highlights the administrative empowerment in terms of decision making as rated by the elementary school administrators themselves. It was found, the overall mean is 4.15 with a verbal description of highly empowered. While the highest individual mean is 4. 65 and the lowest is 3.70.

Table 3: Administrators Empowerment in Terms of Decision Making as Rated by Administrators themselves

Indicators	Mean	Verbal Description
1.1 I make decision with the consent and knowledge of my superior.	4.30	Highly Empowered
1.2 I make decision that suit to my teachers.	4.50	Highly Empowered
1.3 I make decisions in a logical and systematic way.	4.25	Highly Empowered
1.4 When making decisions, I consider various options in terms of a specific goal.	4.10	Highly Empowered
1.5.I make decision to ensure its proper execution.	4.25	Highly Empowered
1.6 When making decisions, I rely upon my instincts.	3.70	Highly Empowered
1.7 When making decision, I rely on my intuition.	3.75	Highly Empowered
1.8 When I make decision, I make sure that it is rational.	4.10	Highly Empowered
1.9 I seek the advice of other people in making an important decisions.	4.00	Highly Empowered
1.10 When I am under pressure, I will not decide.	3.90	Highly Empowered
1.11 I make decision for the development of the school.	4.65	Too highly empowered
1.12 I consider various factors in making decision.	4.20	Highly Empowered
1.13 I avoid making important decisions until the pressure is on.	3.95	Highly Empowered
1.14 I make good and timely decisions, and ensure that they are executed.	4.00	Highly Empowered
1.15 I make decision based on reliable sources.	4.55	Highly Empowered
Average Mean	**4.15**	**Highly Empowered**

D. Administrative Empowerment in Terms of Decision-Making as Rated by Administrators and Teachers

Table 4 states the administrative empowerment in terms of decision making as rated by the administrators themselves and elementary school teachers. The following distributions were found: the overall mean is 4.13 with a verbal description of highly empowered. Whereas, the highest individual mean is 4. 63 and the lowest is 3.70.

Table 4 : Administrators Empowerment in Terms of Decision Making as Rated by Administrators and Teachers

INDICATORS	Administrator's Rating	Teacher's Rating	Mean	Verbal Description
1. DECISION-MAKING				
1.1 I make decision with the consent and knowledge of my superior.	4.30	4.20	4.25	Highly Empowered
1.2 I make decision that suit to my teachers.	4.50	4.35	4.43	Highly Empowered
1.3 I make decisions in a logical and systematic way.	4.25	4.10	4.18	Highly Empowered
1.4 When making decisions, I consider various options in terms of a specific goal.	4.10	4.25	4.18	Highly Empowered
1.5.I make decision to ensure its proper execution.	4.25	4.05	4.15	Highly Empowered
1.6 When making decisions, I rely upon my instincts.	3.70	3.75	3.73	Highly Empowered
1.7 When making decision, I rely on my intuition.	3.75	3.65	3.70	Highly Empowered
1.8 When I make decision, I make sure that it is rational.	4.10	4.20	4.15	Highly Empowered
1.9 I seek the advice of other people in making an important decisions.	4.00	4.10	4.05	Highly Empowered
1.10 When I am under pressure, I will not decide.	3.90	3.80	3.85	Highly Empowered
1.11 I make decision for the development of the school.	4.65	4.60	4.63	Too highly empowered
1.12 I consider various factors in making decision.	4.20	4.20	4.20	Highly Empowered
1.13 I avoid making important decisions until the pressure is on.	3.95	4.00	3.98	Highly Empowered
1.14 I make good and timely decisions, and ensure that they are executed.	4.00	4.10	4.05	Highly Empowered

1.15 I make decision based on reliable sources.	4.55	4.25	4.40	Highly Empowered
Average Mean	**4.15**	**4.11**	**4.13**	**Highly Empowered**

E. Administrative Empowerment in Decision making according to School Head's Profile

A. According to Gender

Table 5 illustrates the significant difference on administrative empowerment in terms of decision making. It was found that the sig. value is 4.74 and above the 0.05 alpha level.

Table 5.: Administrative Empowerment in Decision Making as to Gender

Administrative Empowerment	Gender of School Heads	N	Mean Diff.	Sig.	Decision	Interpretation
Decision-Making as perceived by administrators	Male	11	.157	.474	Ho is Accepted	No Significant Difference
	Female	9				

B. According to Age

Table 6 expounds the significant difference on administrative empowerment in terms of decision making according to administrators' age. It was found that the sig. value is .04 and below the 0.05 alpha level.

Table 6: Administrative Empowerment in Decision Making according to Age

Administrative Empowerment		Sum of Squares	Sig	Decision	Sig.
Decision making as perceived by administrators	Between Groups	1.645	.04	Ho is Rejected	There is Significant Difference
	Within Groups	2.624			

C. According to Educational Qualification

Table 7 Illustrates the significant difference on administrative empowerment in terms of decision making according to administrators' educational qualifications. It was found that the sig. value is .825 and above the 0.05 alpha level.

Table 7: Administrative Empowerment in Decision making as to Educational Qualification

Administrative Empowerment		Sum of Squares	Sig	Decision	Interpretation
Decision-making as perceived by administrators	Between Groups	.228	.825	Ho is Accepted	No Significant Difference
	Within Groups	4.041			
	Total	**4.269**			

D. According to Educational Length of Service

Table 8 presents the significant difference on administrative empowerment in terms of decision making, formulation and implementation of school policies, and instructional planning according to administrators' length of service. It was revealed that the Sig. values is .016 and above the 0.05 alpha level.

Table 8. Administrative Empowerment in Decision making as to Length of Service.

Administrative Empowerment		Sum of Squares	Sig	Decision	Interpretation
Decision-making as perceived by administrators	Between Groups	1.253	.126	Ho is Accepted	No Significant Difference
	Within Groups	3.016			
	Total	4.269			

E. According to Administrators' and Teachers' Ratings

Table 8 presents the significant difference on administrative empowerment in terms of decision making according to administrators' and Teachers' ratings. The sig value is .000 and below the 0.05 level of significance.

Table 8 : Administrative Empowerment in Decision making according to Raters

Administrative Empowerment	Raters	Mean Difference	Sig. (two tailed)	Decision	Interpretation
Decision-Making	Administrators	4.15	.000	Reject Ho	There is significant Difference
	Teachers	4.11			

DISCUSSION

This section exposes the profile of the respondents, the administrative empowerments of the school heads in terms of decision making, the difference of decision making according to profile and according administrator's rating and teachers' rating.

A. Profile of the Respondents

Gleaning from the Table 1, 11 (55%) of the school heads were male and only 9 (45%) were female. This data suggests that the number of male school heads in Pangutaran District is slightly higher than the female. In terms of age, majority 7 (35%) of the school heads of Pangutaran District were belonging to an age bracket of 56-65 years old; while, 6 (30%) of them were at 36-45 years old. Meanwhile, 5 (25%) of them were belonging to 46-55 years old. And only 2 (10%) of them were at 25-35 years old. Hence, it can be deduced that most the school heads of Pangutaran District were almost at the old age already and have experience enough in running the school institutions.

As to their length of service, majority 8 (40%) of the school heads were working from 21-30 years already. While 6 (30%) of them were in the service for about 11-20 years. Further, 4 (20%) were in the profession for 31-40 years; and only 2 (10%) have been in the service for and below. This finding denotes that most of the school heads were already experienced enough to handle challenges and other educational crises while managing the educational institutions.

In terms of administrators' educational qualifications, majority 10 (50%) of them have already finished their master's degree; While 4 (20 %) of the school heads were having their doctoral units; 3 (15%) of them were having master's units; and also, only 3 (15%) have doctoral degree.

The findings revealed that there were lots of school heads who are still pursuing their professional advancement through enrolling in the graduate studies. This implies that elementary schools in Pangutaran District have the greater chance to be at par with other elementary school in the region in terms of educational qualifications of the school heads.

This finding is supported Abdurahman & Omar (2021) in their study on School head's leadership practice and teachers' performance : The case of Omar District, Division of Sulu, Philippines, that 73.2% of the elementary school teachers in Sulu are female and 26.8 percent female. This finding is also supported by Abdurahman (2023) in his study on Job satisfaction and performance of the secondary school teachers in the schools' Division of Sulu, Philippines which states that 72% of all teachers are women, 12% are secondary school principals and 10% are superintendents.

Moreover, this is also corroborated with the study of Abdurahman, et. al (2024) in this study on Exploring the difficulties in teaching Science among intermediate grade teachers in selected schools in MBHTE Sulu, Southern Philippines: basis for program interventions that the majority 130 (72.2%) of the elementary school teachers were female and only 50 (45%) were male. This data implies that the number of female teachers is greater than the male teachers.

B. Administrative Decision Making as Rated by Teachers

Gleaning from Table 4.3, the administrative empowerment in terms of decision making has an average mean of 4.11 from the rating of the teachers which means Highly Empowered. This implies that the school heads of Pangutaran District, MBHTE-Sulu were highly empowered as to decision making.

When taking specifically, they were *Too highly empowered* **(**mean = 4.60) when making decision for the development of the school. This means that the school heads have greater degree of freedom to decide for the betterment of the school.

Besides, school heads were highly empowered to make decision that suit to their teachers. Likewise, the school heads were *highly empowered* to make decisions by considering various options in terms of specific goal. They too were highly empowered to make decision based on reliable sources; with the consent of the superior; and making sure their decisions are rational. In the same manner, the school heads were highly empowered to make decisions by considering various factors; through logical and systematic way; by seeking advice from other people; and by doing them in good and timely manner and ensuring these decisions were executed promptly. Further, they were highly empowered not to make important decisions when under pressure. Lastly, the school heads were highly empowered to make decision relying on instincts and intuitions.

Accordingly, Decision-making empowerment involves providing employees with the right to make applicable decisions concerning basic workplace issues. For instance, front office personnel may be equipped with decision-making power over what type of office supplies to order and where to purchase them from. Decision should be pertinent to the individual job at hand. The process of training and preparing principals is driven by a characteristics model. Underlying each of the components in the characteristics model is decision preparation and ongoing development.

This finding is supported by Abdurahman & Omar (2021) in their study on School head's leadership practice and teachers' performance: The case of Omar District, Division of Sulu, Philippines, they found that school heads were willingly solicit opinions when they are in doubt and very open for suggestions when it comes to decision making.

C. Administrative Empowerment in Decision Making as Rated by Administrators

Gleaning from Table 3, the administrative empowerment in terms of decision making has an average mean of 4.15 as rated by administrators themselves which means Highly Empowered. This implies that the school heads of Pangutaran District, MBHTE- Sulu were highly empowered as to decision making.

When taking specifically, they were *Too highly empowered* **(**mean = 4.63) when making decision for the development of the school. This means that the school heads have greater degree of freedom to decide for the betterment of the school.

Further, the school heads were strongly empowered to make decision for the development of the school. Besides, they make decisions based on reliable sources and that would suit their teachers and with the consent and knowledge of their superior. In the

same manner, the school heads were highly empowered to make decisions and ensure its execution; they make decisions in a logical and systematic way and by considering various factors. Additionally, the school heads were highly empowered to make decisions by considering various option in terms of specific goal; By seeking advice of other people; and by avoiding making decision when so much pressure is on. Moreover, the school heads were highly empowered not to make according to their intuitions and instincts.

In the same vein, Hickman, Moore and Torek (2008) discussed the importance of principal support in transforming normal classroom practitioners into school leaders making decisions collectively. “Principals who are dedicated to distributed leadership must foster an environment of trust at all levels by trusting teachers to make sound, well informed decisions about what is best for their students”.

D. Administrative Decision Making as Rated by Teachers and Administrators Themselves

Gleaning from Table 4, the administrative empowerment in terms of decision making has an average mean of 4.13 from combined ratings from administrators themselves and the teachers which means Highly Empowered. This implies that the school heads of Pangutaran District, MBHTE-Sulu were highly empowered as to decision making.

When taking specifically, they were Too highly empowered (m = 4.63) when making decision for the development of the school. This means that the school heads have greater degree of freedom to decide for the betterment of the school.

Besides, school heads were highly empowered to make decision with the consent and knowledge of their superior. They were also highly empowered to make decision that suit to their teachers; and they were also highly empowered to make decision in a logical and systematic way. In the same way, the school heads were highly empowered to make decisions by considering various options in terms of specific goal; by ensuring its proper execution; and by relying on their instincts and intuitions. Further, they too were highly empowered in terms of making rational decision; by seeking the advice of other people when making important one; and by not deciding when under pressure.

Moreover, the school heads were highly empowered in terms of decision making by considering various factors; by avoiding to make important decisions until the pressure is on; by making good and timely decisions and ensure that they are executed; and by making decision based on reliable sources.

According to Bogler and Nir (2012) empowerment suggests real changes in one’s professional expertise, rising autonomy and involvement in decision making processes. Similarly, Bolin (1989) emphasizes that empowerment is participating in decisions about school goals and practicing these decisions in educational field.

E. Administrative Empowerment in Decision Making and Profile of the School Heads

e.1. According to Gender

Gleaning from table 5, it can be deduced that there is no significant difference on the administrative empowerment of the school heads of Pangutaran District in the areas of Decision making as attested by sig value of .474 and was above the .05 alpha level. This implies that the hypothesis which states that “there is no significant difference of administrative empowerment of school heads in terms of decision making is accepted. Therefore, the perception of male and female administrators in on administrative empowerments as to decision making is almost the same.

e.2. According to Age

Based on the Table 6, it can be said that there was significant difference on the administrative empowerment of school heads in Pangutaran District in terms of Decision making as reflected in in the sig value 0. 046 and below the 0.05 alpha level. This means that those administrators belonging 25-35 years of age and 36-45 years old have different perceptions with that of school heads belonging to 56-65 years old.

e.3. According to Educational Qualification

Gleaning from the same table, there was no significant difference could be seen on administrative empowerment in terms of decision-making with sig. value of 0.826; Thus the sig. value is above the 0.05 alpha level. Hence, it can be deduced that the hypothesis which states that there is no significant difference on the administrative empowerment in terms of decision making was hereby accepted. It would mean, regardless of their educational qualification, the perception of the administrators on administrative empowerment in terms of decision making do not vary with each other.

e.4 According to Length of Service

As revealed in Table 8, there was no significant difference could be seen on administrative empowerment in terms of decision making according to the administrator’s length of service with sig. value of .126 and this is above the 0.05 alpha level. Therefore, it can be deduced that the hypothesis which states that there is no significant difference on the administrative empowerment in terms of decision making was hereby accepted. This means that administrators themselves have almost the same perception in terms of administrative empowerment as to decision making regardless of their length of service.

e.5. According to Administrators’ and Teachers’ Rating

Gleaning from Table 8, a significant difference could be seen on administrative empowerment in terms of decision making as to administrators’ and teachers’ rating with sig. value of .000; Hence, the sig value was above the 0.05 alpha level. Therefore, it can be deduced that the hypothesis which states that there is no significant difference on the administrative empowerment in terms of decision making, according to administrators’ and teachers’ ratings” was hereby rejected. This implies that the perception of the school heads of Pangutaran District varies and much higher than the perception of the teachers

in terms of administrative empowerment. This means also that from the view point of the school administrators, they are highly empowered in terms of decision making.

Conclusions

This study sought to investigate the administrative empowerment of the school heads in Pangutaran District, MBHTE-Sulu. On the basis of the findings of the study, the following are the conclusions derived from the investigations.

The majority of the school heads were male, aged from 56-65, most of them were with masters' degree and have been rendering services from 21-30 years in the service.

That the school heads were rated "highly empowered" in terms of decision making, Further, there was no significant difference between male and female on their perspective on the administrative empowerment of School heads' decision making. Likewise, there was a significant difference on the perception of the respondents in terms of age. Meanwhile, there was no significant difference could be gleaned on administrative empowerment on school heads' decision making in terms of educational qualification and length of services. Moreover, there was a significant difference between the perception of the administrators and the teachers as to decision making.

Recommendations

On the basis of the findings and conclusions of the study, the following recommendations are hereby forwarded

1. The MBHTE- BARMM may legislate regional policy to help intensify the empowerment of the school principals in the respective divisions.
2. The MBHTE-Sulu may create an avenue for administrator's continuing professional development for school head in both elementary and secondary level.
3. The MBHTE-Sulu must continue strengthen the administrative empowerment of all school heads in the Province of Sulu.
4. Future researchers must delve deeper to conduct a similar study to validate the herein findings of the same.
5. The following research topics are also forwarded as reference for the future researchers:
    A. "Impact of Administrative Empowerment to Teacher's Performance in MBHTE-
    B. "Administrative Empowerment vis-à-vis School Development": The Case of MBHTE-Sulu
    C. "Administrative Empowerment: Its Relationship to Innovative Behavior of School heads in MBHTE-Sulu"

Ethical Considerations

Foremost, the researchers have put the ethical treatment of the participants with utmost priority. Safeguarding the right to privacy of the participants is at major stake.

Anent this, the researchers have sent an informed consent to the respondents which clearly explains the purpose, procedures, potential risks and benefits of the study. In like manner, teachers were also informed of their rights to and not-to participate in the study. They were likewise informed that the researchers have preserved a maximum confidentiality. Furthermore, in respect to the privacy of the respondents, the data collected were actually stored in a secured archive where only the researchers can access. And, anonymization of these data was strictly observed wherein no particular information of the respondents were linked to the study. Moreover, all participants were treated with respect regardless of their diverse perspective and opinions. Finally, the researchers created a safe space for the respondents to give them freedom to share their experiences in line with the objectives of the study.

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ARIMA FORECASTING OF COVID-19 IN MINDANAO: EVALUATING THE EFFECTS OF TEMPERATURE AND HUMIDITY

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ABSTRACT

Assessing the effect of meteorological factors on COVID-19 cases can help to understand the transmission patterns of the virus and provide valuable insights for public health interventions. This study assesses and forecasts the impact of daily temperature and humidity on COVID-19 cases across Mindanao. All regions of Mindanao's COVID-19 models' performance were compared. This study used the best-fit model to evaluate the regions: Autoregressive Integrated Moving Average (ARIMA) modeling in R. ARIMA modeling is an effective method for analyzing and forecasting the COVID-19 outbreak. The findings showed a predicted slight increase and positive correlation in COVID-19 instances for regions 9 and 10. Moreover, there is a negative correlation between Regions 11, 12, 13, and BARMM and forecast stability around zero cases. Furthermore, the study examines a connection between the peaks and troughs in COVID-19 cases in Mindanao and temperature and humidity. Regional ARIMA models help decision-makers make well-informed choices, distribute resources wisely, and control the spread of the infection.

Keywords: *ARIMA, COVID-19, Humidity, Mindanao, Temperature*

INTRODUCTION

The COVID-19 pandemic, caused by the SARS-CoV-2 virus, has profoundly impacted public health worldwide since its emergence in December 2019. In the

Philippines, as of January 8, 2024, there were 4,140,383 recorded cases. The pandemic has affected various sectors, including accountants in Mindanao, whose salaries have been adversely affected, and fishers in Davao Gulf, facing increased financial burdens and emotional strain, impacting their children's education (Enriquez et al., 2023; Macusi et al., 2022).

Research suggests that local air humidity and temperature play significant roles in COVID-19 mortality rates, with higher humidity and warmer temperatures potentially reducing transmission (Biktasheva, 2020; Gupta et al., 2020). Like other seasonal respiratory viruses, COVID-19 spreads more readily in cold and temperate regions. Studies also indicate that wind speed and temperature influence the spread of the virus, particularly during mealtimes and periods of high mobility (Ganslmeier et al., 2021).

Moreover, forecasting pandemics using Autoregressive Integrated Moving Average (ARIMA) modeling shows promise for short-term predictions, although the accuracy diminishes over time. While initial forecasts align closely with actual values, long-term predictions become less reliable (Ospina et al., 2023).

This study investigates the correlation between COVID-19 cases and meteorological factors, specifically temperature and humidity. Drawing on Biktasheva's (2020) findings, which suggest a negative correlation between local air humidity and COVID-19 mortality, and Gupta et al.'s (2020) observations of an optimal absolute humidity range for COVID-19 transmission, this research aims to identify similar patterns in the Philippines, particularly in Mindanao. Understanding these relationships could provide valuable insights for future research and interventions aimed at mitigating the impact of the virus.

Research Questions

This research explores the intricate relationship between geographical factors, climatic conditions, and the spread of COVID-19 in Mindanao.

Specifically, it seeks to apply the Autoregressive Integrated Moving Average (ARIMA) model to quantify the influence of regional geographical factors on the correlation between temperature, humidity, and COVID-19 cases.

1. How does the ARIMA model quantify the influence of regional geographical factors on the correlation between temperature, humidity, and COVID-19 cases in Mindanao?

2. Using the ARIMA model, what are the observed and forecasted trends of COVID-19 cases in Mindanao, and how can these insights inform future pandemic preparedness and response efforts?

METHODOLOGY

The data collection process for this study involved sourcing COVID-19 case data from March 2020 to December 2022 from the Department of Health's daily reports across various regions in Mindanao, alongside acquiring data on average daily temperature and humidity from PAGASA (Philippine Atmospheric, Geophysical and Astronomical Services Administration). Subsequently, data cleaning procedures were implemented to ensure data accuracy and reliability, including addressing missing values through mean imputation and considering outliers.

Data presentation encompassed textual, tabular, and graphical formats, employing line graphs to visualize the association between temperature and anticipated COVID-19 cases. At the same time, statistical treatments involved computing correlations and employing ARIMA models, leveraging R programming for data analysis (Hyndman & Athanasopoulos, 2018). The ARIMA models were tailored to each region, integrating temperature and humidity data as external regressors, with forecasted COVID-19 cases plotted to provide insights into future trends, aiding in informed decision-making for public health strategies (Braun & Murdoch, 2021; Frost, 2023).

RESULTS

Region	ARIMA Model	RMSE	AICc	BIC
9	(3,0,1)	38.35	8,650.50	8,688.31
10	(5,0,3)	53.06	9,211.27	9,263.18
11	(5,1,4)	96.57	10,211.25	10,267.83
12	(2,1,4)	62.97	9,486.22	9,528.73
13	(2,1,3)	57.58	9,331.57	9,369.37
BARMM	(2,1,3)	20.66	7,586.46	7,624.26

Table 1. *ARIMA Model for Each Region*

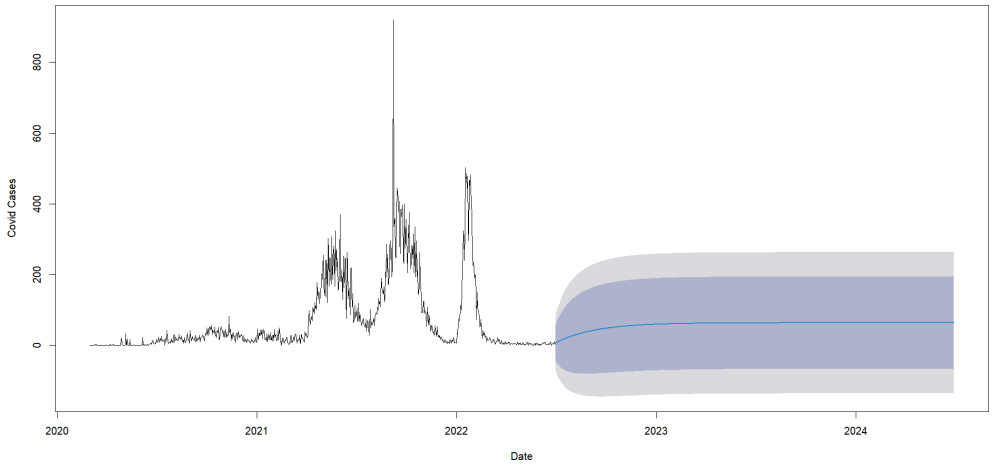


Figure 1. *Region 9 Forecast Plot.*

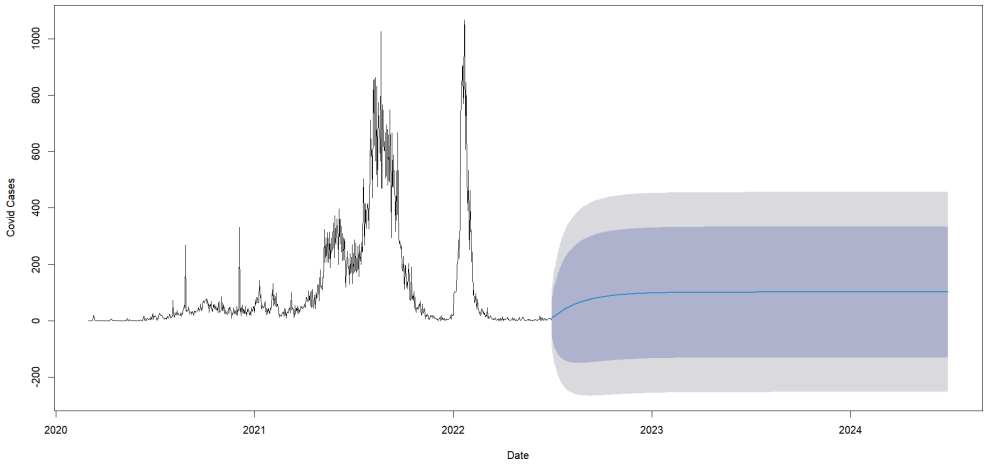


Figure 2. *Region 10 Forecast Plot.*

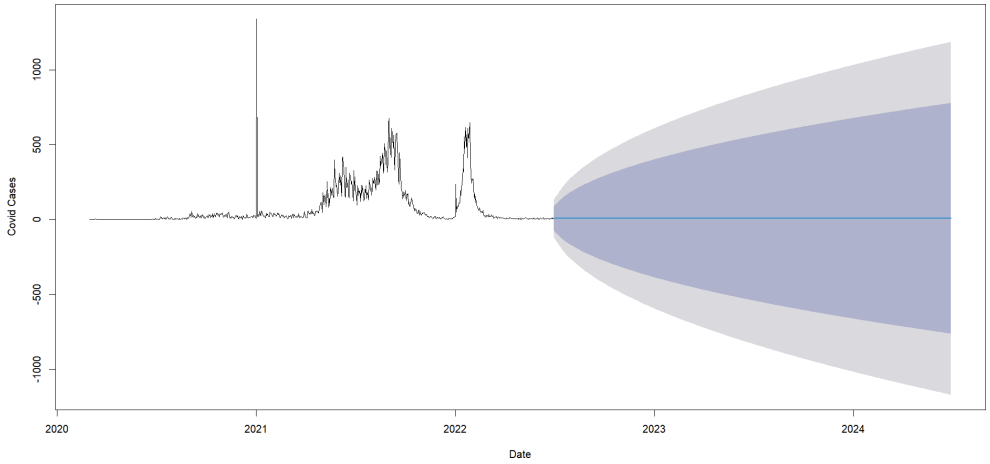


Figure 3. *Region 11 Forecast Plot.*

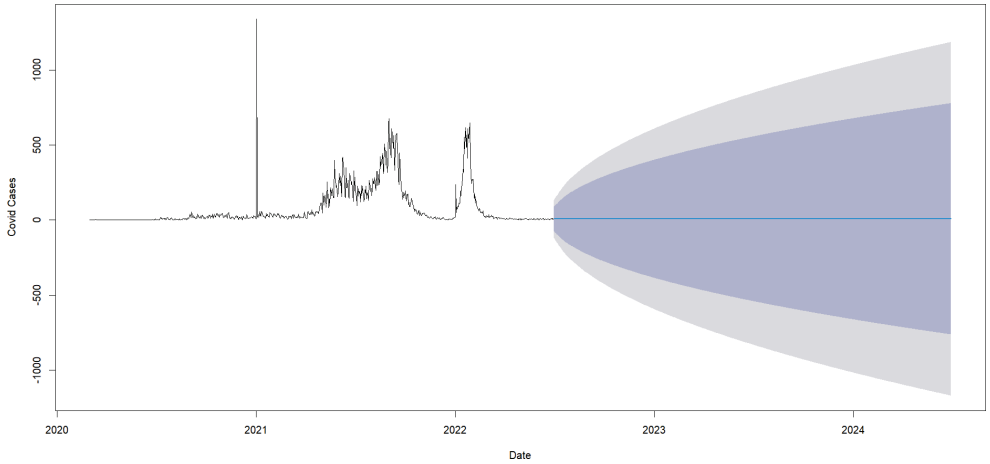


Figure 4. *Region 12 Forecast Plot.*

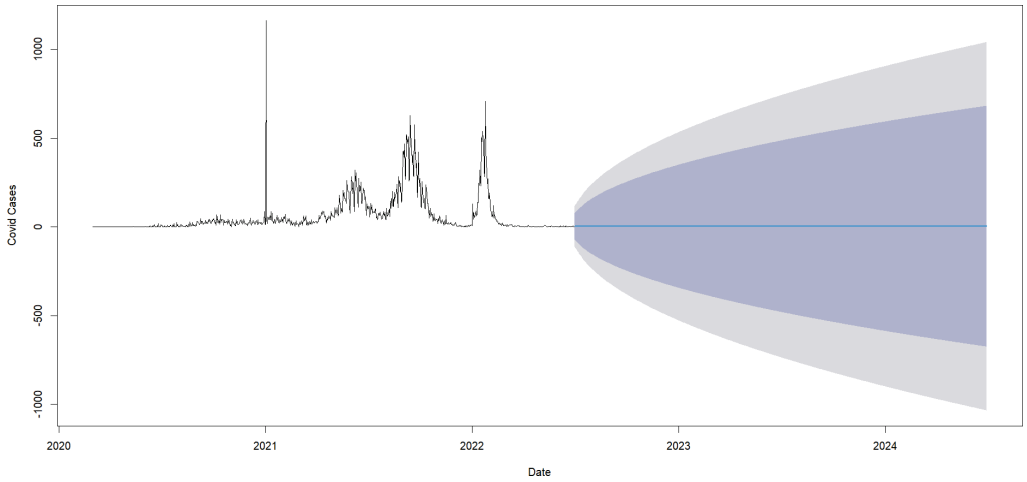


Figure 5. *Region 13 Forecast Plot.*

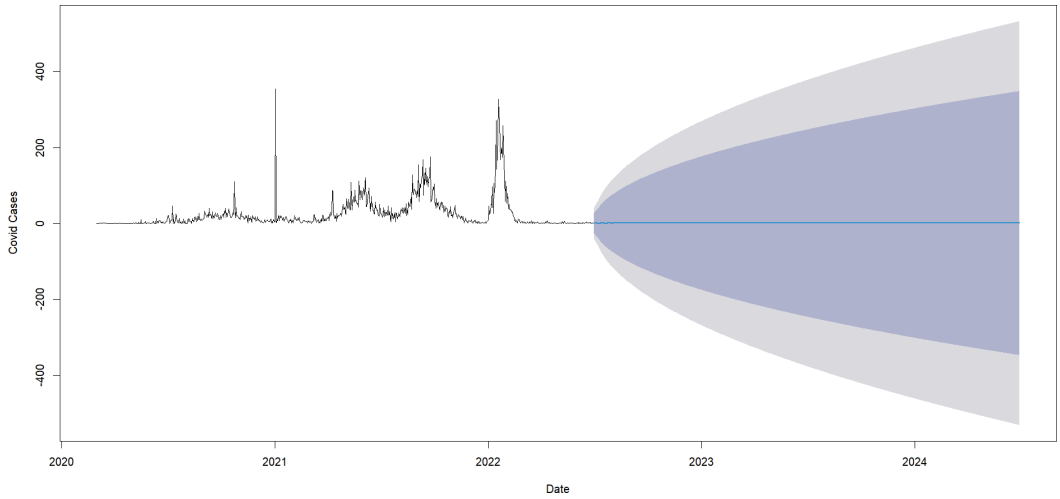


Figure 6. *Region BARMM Forecast Plot.*

DISCUSSION

The quantities of the correlation coefficients of the COVID-19 cases and temperature range from 0.024 to 0.279, while the correlation coefficients between the COVID-19 cases and humidity range from 0.021 to 0.122. Additionally, only Region 10 has a positive r value for the COVID-19 cases and temperature, while only regions 10 and 13 have a negative r value for the COVID-19 cases and humidity.

The correlation between COVID-19 cases and meteorological factors varies across regions, with coefficient magnitudes ranging from 0.02 to 0.28, which matches the range of the r values from the meta-analysis of Islam and Noor (2022). Most regions showed a

negative correlation between the number of cases and temperature, except for Region 10. Conversely, most regions except Regions 10 and 13 have a positive correlation between the number of cases and humidity. This suggests that the number of COVID-19 cases tends to increase with decreasing temperature and increasing humidity for most regions.

The model shown in Table 4.2 is identified as an "ARIMA(p,d,q)" model, where 'p' signifies the count of autoregressive terms, 'd' represents the number of nonseasonal differences required to achieve stationarity, and 'q' denotes the quantity of lagged forecast errors in the prediction equation (Hyndman & Athanasopoulos, 2018).

The three parameters of ARIMA models indicate the number of autoregressive terms, the number of differencing performed, and the number of lagged forecast errors. The autoregressive term p implies that the forecasted data regresses on its p-lagged values. This means that the forecasted values regress on their past five values in regions 10 and 11, while they regress on their past two values in regions 12, 13, and BARMM.

The integrated model d refers to the differencing performed for stationarity of a time series. A stationary time series is when the mean and variance are constant. Having a zero value on regions 9 and 10's integrated model implies that no differencing was performed for the regions, which means that regions 9 and 10's time series are already stationary. This also suggests that the time series for regions 9 and 10 show no predictable trends and seasonality. Meanwhile, regions 11, 12, 13, and BARMM had values of 1 for their degree of differencing. This implies that one differencing was to be performed for their time series to achieve stationarity.

The moving average model q is the quantity of lagged forecast errors in the model. Instead of using lagged values, it uses q-lagged errors. The moving average shows that the regression error linearly combines error terms whose values occurred contemporaneously and at various times in the past. The q values incorporate the dependency between an observation and a residual error from a moving average model applied to lagged observations. Regions 11 and 12 show more lagged forecast errors in the prediction equation of 4 points.

The trend of the forecasted values differs for each region. In regions 9 and 10, the values were observed to increase in the latter parts of 2022 and early parts of 2023 and then proceed with no fluctuations in the succeeding days. In regions 11, 12, 13, and BARMM, the forecasted values were observed to have a stable progression.

The observed difference in each region's forecasted values' trend behaviors might be caused by the difference in their ARIMA models' parameters, where regions 9 and 10 have zero values for their integrated model. The ranges of the forecasted values were observed not to exceed 20. In regions 9 and 10, the cases are expected to increase gradually in the succeeding years, while less than 20 to no cases are expected in regions 11, 12, 13, and BARMM.

Conclusions

The data on COVID-19 cases signified the highest number of cases during the first and third quarters of 2020-2022 and the lowest during the first quarter. A steady decrease in cases was definite from the fourth quarter until now.

The relationship between temperature and the COVID-19 cases is more likely negative, while the relationship between humidity and the COVID-19 cases is more likely positive. It only exhibited a positive correlation between temperature and the number of cases in Region 10 and a negative correlation between humidity and the number of cases in regions 10 and 13, which are the northern parts of Mindanao. The geographical location of each region might have contributed to the correlation between the variables.

The trend of the forecasted values differs for each region. In regions 9 and 10, the values were observed to increase in the latter parts of 2022 and early parts of 2023 and then proceed with no fluctuations in the succeeding days. As for the remaining regions, the forecasted values were observed to have a stable progression. The ranges of the forecasted values were observed to be at most 20. In regions 9 and 10, the cases are expected to increase gradually in the succeeding years, while less than 20 to no cases are expected in the other regions.

Recommendations

In obtaining the data, this study recommends that future researchers ask government agencies directly through a letter for faster data collection. It also advised immediate data cleaning upon receiving or collecting the data for it to be validated to reduce the risk of complications during the implementation of other tasks regarding the study.

This study also recommends considering other meteorological factors, such as rainfall, air pressure, and solar radiation, which may also relate to COVID-19 cases.

Using other statistical software, such as premium software, may also influence the data treatment and analysis of such a study. Other software may offer a quicker, easier, and more in-depth data review. However, R is the most recommended statistical software for forecasting because of its popularity, utility, accessibility, and ease of use.

Compliance with Ethical Standards

Strict adherence to ethical guidelines was followed during the study. Data on temperature and humidity were obtained from PAG-ASA, while COVID-19 data came

from the DOH website. Although human participation was not directly involved, measures were taken to ensure data privacy. Proper permissions were secured for data access, and transparency was maintained regarding sources and limitations.

The research was conducted with integrity, avoiding conflicts of interest and ensuring objective analysis. Adherence to institutional and regulatory guidelines was upheld, and ethical considerations were integrated into data analysis. The broader implications for public health and policy were carefully considered. These efforts ensure that the research contributes valuable insights while upholding ethical standards.

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ASSESSMENT OF THE PERFORMANCE OF FRESHMEN STUDENTS IN MATHEMATICS IN THE MODERN WORLD: BASIS FOR AN INTERVENTION PROGRAM

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ABSTRACT

Mathematics in the Modern World constitutes a fundamental component of the general education curriculum for undergraduates across various disciplines. Despite its significance, numerous students experience apprehension and difficulty with the subject, as highlighted in prior research. This study investigates the performance of first-year students enrolled in Mathematics in the Modern World at Gordon College, Philippines, during the first semester of the 2023 academic year. With a total of 765 respondents from diverse academic backgrounds, the research aims to identify areas of weakness and propose interventions to enhance student learning outcomes. Through a quantitative research approach employing a non-experimental cross-sectional design, data were gathered via a survey distributed to all freshmen enrolled in the course. Descriptive and inferential statistical analyses were conducted to examine performance variations based on demographic profiles and to identify factors influencing student achievement. Findings reveal significant differences in performance based on demographic factors, emphasizing the need for tailored interventions. Multiple regression analysis showed that the identified factors affecting performance is program and course, which is in parallel to the difference test signifying difference in performance when grouped according to profile variables. Recommendations include faculty consultation, peer tutoring programs, syllabus revision, and alignment of teaching strategies with students' program-specific needs. Also, it is recommended that faculty share best practices among one another and have a discussion from time to time regarding methods of teaching, assessment, and classroom management. These insights offer valuable guidance for instructors and educational institutions to optimize the teaching and learning experience in Mathematics in the

Modern World, ultimately fostering improved student outcomes and alleviating anxiety associated with the subject.

Keywords: *Academic Performance, Commission on Higher Education, Difficult subject, Mathematics in the Modern World, Outcome Based Teaching Learning Plan*

INTRODUCTION

Mathematics in the Modern World is one of the general education courses that make up the portion of the curriculum that all undergraduates ought to take regardless of their major. According to the Commission on Higher Education (CHED) memorandum series of 2013, General Education subjects exposes students to various domains of knowledge and ways of comprehending social and natural realities, developing in the process: (1) Intellectual competencies such as critical, analytical and creative thinking, and multiple forms of expression; and (2) Civic capacities demanded of membership in the community, country and world. General Education introduces students to diverse realms of knowledge and different approaches to both social and natural phenomena.

From the study of Labo (2023), stated that the CMO 20, Series of 2013 of the Commission of Higher Education recommended that Mathematics in the Modern World includes key concepts of mathematics in our world, mathematical language and symbols, problem solving and reasoning, data management, geometric design, linear programming, the mathematics of finance, apportionment and voting, logic, the mathematics of graphs, and mathematical system.

Langoban (2020) mentioned that Mathematics subject has been dreaded by most students and this is observable in the class where teachers experience the saddest reality in which the subject is deemed to be difficult for most students.

The first-year students in Gordon College who are taking Mathematics in the Modern World would find the subject as difficult and one of the reasons of having negative connotation about the subject that affects their performance is that on their perspective it is the difficult subject from their personal experiences. From the required curriculum of Commission in Higher Education for Mathematics in the Modern World during midterm the topics discussed are concepts of mathematics in our world, mathematical language and symbols, problem solving and reasoning and for final term topics depends on the different programs where the students are under, but it is usually, data management and the mathematics of finance for business and accountancy and hospitality and tourism and education.

There are 765 students were the respondents of this study from the College of Education, Arts and Sciences, College of Business and Accountancy and College of Hospitality, Tourism and Management who took the subject Mathematics in the Modern World during the first semester of the school year 2023 from Gordon College in the Philippines.

From the study of Langoban (2020) cited that from the research entitled “College Students’ Difficulties with Basic Mathematics” by Arenillo and Cruzado (2014), the subject Mathematics itself evokes fear and anxiety to college students and the difficulty experienced by,most students are not just spoken in order to be heard but evidences on performance of students in Mathematics along with other disciplines are lower across various class sizes (Arenillo & Arenillo, 2013). This suggests that mathematics is a challenging topic for children, and numerous studies have been conducted to solve this issue.

To resolve the issue of difficulty experienced by most of the students, the research of this study investigates student performances enrolled in Mathematics in the Modern World. Through the student performances in Mathematics in the Modern World this study could provide valuable insights to areas where they are lacking thus allowing Gordon College instructors of Mathematics in the Modern World to adjust the Outcome Based Teaching and Learning Plan (OBTL)and its goals, implement additional interventions and revisit the effectivity of their teaching strategies.

Research Questions

This study was conducted to investigate student performances enrolled in Mathematics in the Modern World. Identify possible differences in the performance of the students, based on their demographic profiles. The feedback from the students is for improvement of the teaching Mathematics in the Modern World. To attain this objective, the following questions were raised:

1. What is the profile of the student-respondents in terms of:
   1.1. Sex;
   1.2. Course;
   1.3. College;
   1.4. Instructor?
2. What is the performance of the students during the midterm and final term?
3. Is there a significant difference in the performance of the student-respondents when grouped according to profile?
4. Does the profile variables significantly affect the performance in Mathematics in the Modern World?

METHODOLOGY

This study employed a quantitative research approach particularly non-experimental cross-sectional design, to systematically gather numerical data regarding the performance of freshmen students in mathematics. Utilizing the survey method, data will be collected from all freshmen students enrolled in Mathematics in the Modern World in the current academic semester. A census approach will be adopted for sampling,

ensuring the inclusion of all eligible participants without any sampling. This method guarantees that the findings accurately represent the entire population of interest, ABS (2024). The data collection instrument is consisting of a structured questionnaire designed to identify the profile and grades of the students. The survey questionnaire was distributed to all freshmen students enrolled in MMW during a designated class session, accompanied by clear instructions regarding the purpose of the study, voluntary participation, confidentiality of responses, and the importance of providing honest and accurate information. Data analysis involved descriptive statistics such as mean and frequency distributions to summarize the collected data, along with inferential statistical techniques like regression analysis to examine relationships between different variables and identify factors influencing students' performance in mathematics.

RESULTS AND DISCUSSION

The results, findings and discussions are logically arranged in this section based on the statement of the problem.

Profile of the student-respondents

Table 1
Profile of the Student-Respondents (N=765)

	Frequency	Percentage
Sex		
Female	510	66.7
Male	255	33.3
Program		
Bachelor of Arts in Communication	2	.3
Bachelor in Culture and Arts Education	3	.4
Bachelor of Elementary Education	7	.9
Bachelor of Physical Education	1	.1
Bachelor of Secondary Education major in English	7	.9
Bachelor of Secondary Education major in Filipino	8	1.0
Bachelor of Science in Accountancy	63	8.2
BSBA major in Financial Management	175	22.9
BSBA major in Human Resource Management	114	14.9
BSBA major in Marketing Management	86	11.2
Bachelor of Science in Customs Administration	206	26.9
Bachelor of Science in Tourism Management	93	12.2
College		
College of Education, Arts, and Sciences	28	3.7
College of Business and Accountancy	644	84.2
College of Hospitality and Tourism Management	93	12.2

Instructor		
Instructor A	118	15.4
Instructor B	251	32.8
Instructor C	396	51.8

The profile of student-respondents, as depicted in Table 1, encompasses various demographic and academic characteristics. Among the 765 respondents, females dominate, constituting 66.7% of the total, while males account for 33.3%. In terms of academic programs, Bachelor of Science in Customs Administration stands out with the highest frequency at 26.9%, while Bachelor of Arts in Communication, Bachelor of Physical Education, and Bachelor in Culture and Arts Education exhibit the lowest frequencies, each representing less than 1% of the total. Regarding colleges, the College of Business and Accountancy boasts the highest representation at 84.2%, contrasting with the College of Education, Arts, and Sciences, which has the lowest at 3.7%. Instructor C has the highest frequency among instructors at 51.8%, whereas Instructor A holds the lowest frequency at 15.4%. These demographics set the stage for understanding performance in mathematics among the respondents.

The profile of student-respondents in terms of sex and enrolled academic programs with respect to the assessment of the performance of freshmen students in mathematics in the modern world varies. Laranang (2020) found that junior high school students had a moderately high level of self-confidence and enjoyment in mathematics, with attitudes significantly correlated to self-efficacy and performance. Etcuban (2019) reported positive attitudes towards the value of mathematics, but a neutral attitude towards self-confidence, enjoyment, and motivation. Keller (2020) discovered that male students were overrepresented among top-performing math students, with stronger math self-efficacy and mathematics-oriented achievement profiles. Manalaysay (2019) found no significant difference in mathematical achievement between male and female students, with mathematics anxiety being a predictor of achievement. These studies highlight the complex interplay of attitudes, self-efficacy, and gender differences in mathematics performance.

Performance of the Student-Respondents

Table 2
Frequency and Percentage Distribution of Performance of the Student-respondents in MMW

Grades	Midterm Grade		Final Grade	
	Frequency	Percentage	Frequency	Percentage
95 - 100	17	2.2	22	2.9
90 - 94	28	3.7	45	5.9
85 - 89	110	14.4	146	19.1
80 - 84	228	29.8	237	31.0
75 - 79	182	23.8	190	24.8
Below 75	198	25.9	92	12.0
Incomplete	0	0	5	.7
Failure Due Absences (FDA)	0	0	24	3.1
Officially Dropped	2	.3	4	.5

Table 2 provides an overview of the performance distribution of student-respondents in their Midterm and Final grades for Mathematics in the Modern World (MMW). Grades are categorized into various ranges, with frequencies and percentages indicated for each range. Notably, the most common Midterm and Final grades fall within the 80-84 range, comprising 29.8% and 31.0% respectively. Conversely, the lowest frequencies are found in the 95-100 range for Midterm grades and in the Below 75 range for Final grades.

The study of Pecjo (2022) investigates the effect of the COVID-19 pandemic on the academic performance in mathematics of students at Tugatog National High School in the City Division of Malabon. The findings of the study reveal that the shift to virtual/online learning during the pandemic posed significant challenges to students' learning of mathematics. This aligns with the observations in Table 2, which showed varying performance distributions among student-respondents in their Midterm and Final grades for Mathematics in the Modern World (MMW). Possible reasons for the observed performance disparities, as indicated by Pecjo's study, could include factors such as poor internet connection or access, inadequate study habits, and the challenges associated with distance learning. These factors may have contributed to difficulties in engaging with mathematics content and accessing necessary resources, ultimately impacting students' academic performance. By considering the implications of the COVID-19 pandemic on mathematics education, educators and policymakers can develop strategies to address the challenges faced by students and support their learning needs during remote learning environments.

The study by Tyaningsih et al. (2021) explores the impact of the COVID-19 pandemic on mathematics learning in higher education, particularly during the period of

learning from home (LFH). The findings of the study provide insights into students' perspectives on online mathematics education and its sustainability in the transition towards a new normal. The challenges identified in Tyaningsih et al.'s study, such as network constraints, health issues, and course-related difficulties during LFH, may have contributed to the observed disparities in academic performance among students. As the COVID-19 pandemic continues to shape educational practices, understanding students' experiences and addressing the challenges they face in remote learning environments are essential for supporting mathematics education and improving academic outcomes.

Difference Test

Table 3.1
Difference Test on Academic Performance grouped according to Sex

Grades	Sex	Median	Mann-Whitney U	Sig.	Remarks
Midterm	Female	80	57497.50	.013	Significant
	Male	78			
Final	Female	82	51541.00	.009	Significant
	Male	81			

Table 3.1 shows the Mann-Whitney U test on the difference in academic performance grouped according to sex. The midterm performance of the female group had higher values $(Mdn = 80)$ as the performance of the Male group $(Mdn = 78)$. A Mann-Whitney U-Test showed that this difference was statistically significant, $U = 57497.50$, $p = 0.013$. Similarly, the final term performance of the female group had higher values $(Mdn = 82)$ as the performance of the Male group $(Mdn = 81)$. A Mann-Whitney U-Test showed that this difference was statistically significant, $U = 51541.00, p = 0.009$.

The study by Perez, et al. (2021) investigates the longitudinal trend of the gender gap in mathematics achievement in Chile. Despite global efforts to address gender disparities in math performance, male students continue to outperform female students in many countries, including Chile. Using nationally representative longitudinal data and multigroup latent growth modelling (LGM), the study tracks the mathematics scoring gap from kindergarten to grade 12. The findings reveal that gender differences in mathematics performance emerge during preschool and widen as students' progress through school. Although the gap slightly decreases between grades 10 and 12, it nearly doubles by the end of high school. This widening gap has significant implications for access to higher education and the choice of major. This is relevant to the current study as it provides insights into the gender differences in mathematics performance over time. By understanding the longitudinal trends of the gender gap in mathematics achievement, educators and policymakers can develop targeted interventions to address disparities and support equitable learning opportunities for all students.

Table 3.2
Difference Test on Academic Performance grouped according to Program

Grades	Program	Mean Rank	Kruskal-Wallis H	Sig.	Remarks
Midterm	Bachelor of Arts in Communication	147.00	145.515	.000	Significant
	Bachelor in Culture and Arts Education	169.17			
	Bachelor of Elementary Education	512.21			
	Bachelor of Physical Education	106.50			
	Bachelor of Secondary Education major in English	436.36			
	Bachelor of Secondary Education major in Filipino	427.44			
	Bachelor of Science in Accountancy	628.94			
	BSBA major in Financial Management	407.41			
	BSBA major in Human Resource Management	319.25			
	BSBA major in Marketing Management	334.74			
	Bachelor of Science in Customs Administration	300.36			
	Bachelor of Science in Tourism Management	467.21			
Final	Bachelor of Arts in Communication	67.25	128.651	.000	Significant
	Bachelor in Culture and Arts Education	112.50			
	Bachelor of Elementary Education	449.71			
	Bachelor of Physical Education	119.50			
	Bachelor of Secondary Education major in English	296.36			
	Bachelor of Secondary Education major in Filipino	254.69			
	Bachelor of Science in Accountancy	606.77			
	BSBA major in Financial Management	383.41			

BSBA major in Human Resource Management	281.90
BSBA major in Marketing Management	350.02
Bachelor of Science in Customs Administration	318.26
Bachelor of Science in Tourism Management	416.38

Note: $df = 11$

Table 3.2 presents the results of a difference test on academic performance grouped according to program, focusing on Midterm and Final grades. Regarding Midterm grades, the Bachelor of Science in Accountancy program achieves the highest mean rank of 628.94, while the Bachelor of Physical Education program obtains the lowest mean rank of 106.50. This suggests significant variation in Midterm performance across programs, as supported by a significant Kruskal-Wallis H statistic ($\chi^2(11) = 145.515, p =$ $.000$). Similarly, for Final grades, the Bachelor of Science in Accountancy program achieves the highest mean rank of 606.77, while the Bachelor of Physical Education program again obtains the lowest mean rank of 119.50. The Kruskal-Wallis H statistic remains significant ($\chi^2(11) = 128.651,\ p = .000$), indicating notable differences in Final performance among programs. Overall, the results suggest significant disparities in academic performance across different academic programs, highlighting the need for further investigation into the factors influencing these differences.

The study by Tan and Dejoras (2019) investigates the problem-solving ability of graduates from Science, Technology, Engineering, and Mathematics (STEM) and non- STEM backgrounds enrolled in the Bachelor of Science in Mathematics Education (BS MathEd) program. Utilizing a Mathematics Problem Solving Ability Test developed by the researchers, the study finds no significant difference in problem-solving ability between STEM and non-STEM graduates. Both groups were identified as apprentice problem- solvers, capable of obtaining partially correct solutions but not consistently arriving at the correct answers. The findings suggest the need for enhancements in the basic education program, particularly in the successful implementation of K to 12. Recommendations include providing quality instructional materials, conducting teacher training programs, and considering teachers' qualifications in hiring. Additionally, the study suggests that the BS Mathematics Education Program should not exclusively admit STEM graduates and proposes remedial activities to improve problem-solving abilities among pre-service mathematics teachers. The differences in academic performance among students from various academic backgrounds, specifically in the context of mathematics education programs. Both studies contribute to understanding the factors influencing students' performance within specific academic programs and highlight the importance of addressing skill gaps to enhance educational outcomes.

The article by Yousuf Al Husaini and Nur Syufiza Ahmad Shukor (2022) explores the factors affecting students' academic performance, with a focus on assessing students'

standing within a university. The study emphasizes the importance of evaluating students' performance across various courses throughout a semester to aid academic staff, administrators, and decision-makers in making informed assessments and supporting students' academic progress. The authors highlight the rising challenges of delayed graduation and college dropouts in Oman, underscoring the impact on higher education missions. By conducting a systematic literature review, the study identifies several key factors influencing academic performance, including entry grades, family support, accommodation, student gender, previous assessment grades, GPA, and e-learning activity. These findings provide valuable insights for researchers and educators interested in understanding and addressing issues related to academic performance, such as developing predictive models. It aligns with the exploration of factors influencing academic performance, albeit from a broader perspective. Both studies contribute to understanding the multifaceted nature of academic achievement and the importance of identifying and addressing factors that impact students' success in education.

Table 3.3
Difference Test on Academic Performance grouped according to College

Grades	College	Mean Rank	Kruskal-Wallis H	Sig.	Remarks
Midterm	College of Education, Arts, and Sciences	391.70	16.142	.000	Significant
	College of Business and Accountancy	369.23			
	College of Hospitality and Tourism Management	467.21			
Final	College of Education, Arts, and Sciences	280.41	10.024	.007	Significant
	College of Business and Accountancy	362.85			
	College of Hospitality and Tourism Management	416.38			

Note: $df = 2$

Table 3.3 shows the difference test on the performance of the student-respondents grouped according to different colleges. A Kruskal-Wallis H test showed that there was a statistically significant difference in midterm performance among the different colleges,
$\chi^2(2) = 16.142, p = .000$, with mean rank grade of 467.21 for College of College of Hospitality and Tourism Management which is greater than mean rank grade of 369.23 for the College of Business and Accountancy. Similarly, there was a statistically significant difference in final term performance among the different colleges, $\chi^2(2) = 10.024, p = .007$, with mean rank grade score of 416.38 for College of College of

Hospitality and Tourism Management which is greater than mean rank grade score of 280.41 for the College of Education, Arts, and Sciences.

Choosing college courses with respect to performance in mathematics is an important consideration for students. Research suggests that different math pathways can have varying effects on student outcomes. One study found that while the Liberal Arts math pathway may increase the likelihood of students passing the first gateway course, Algebra pathways tend to result in greater longer-term coursetaking success (Mokher & Hu, 2022). Another study indicates that offering a choice of instructional methods, such as differentiated instruction, can benefit groups underrepresented in mathematics and improve student achievement in college-level math courses (Roop et al., 2018). Redesigning math classes using modern technology, such as a lab-based adaptive model, has also been shown to increase pass rates and decrease withdrawal rates (Stefanov & Griffiths, 2023). Additionally, providing a basic mathematics course alongside algebra classes can have a positive impact on student performance, particularly for those with low math proficiency (Villanueva-Cantillo et al., 2020). Strengthening students' regular performance and process management is also important for improving final performance in math courses.

Table 3.4
Difference Test on Academic Performance grouped according to Instructor

Grades	College	Mean Rank	Kruskal-Wallis H	Sig.	Remarks
Midterm	Instructor A	455.38	34.392	.000	Significant
	Instructor B	415.78			
	Instructor C	338.50			
Final	Instructor A	389.60	11.164	.004	Significant
	Instructor B	395.97			
	Instructor C	341.75			

Note: $df = 2$

Table 3.4 shows the difference test on the performance of the student-respondents grouped according to different instructors. A Kruskal-Wallis H test showed that there was a statistically significant difference in midterm performance among the different colleges,
$\chi^2(2) = 34.392,\ p = .000$, with mean rank grade of 455.38 for Instructor A which is greater than mean rank grade of 338.50 of Instructor C. Similarly, there was a statistically
significant difference in final term performance among the instructors, $\chi^2(2) = 11.164, p =$

.004, with mean rank grade score of 395.97 of instructor B which is greater than mean rank grade score of 341.75 of instructor C.

Research has shown that teachers' evaluations of students' mathematical ability can be influenced by biases, particularly against Black, Hispanic, and female students (Copur-Gencturk, 2019). However, the relationship between teachers' professional knowledge and instructional quality in mathematics education is also crucial, with higher self-efficacy beliefs and coursework in mathematics being associated with better student achievement (Toropova, 2019). Furthermore, students' perceptions of their mathematics teachers' professional competence can have a significant impact on their engagement, achievement, and choice of college major (Shin, 2021). Therefore, when choosing college instructors for mathematics, it is important to consider not only their expertise in the subject but also their ability to mitigate biases and create an inclusive learning environment.

Regression Analysis

Table 4.1
Regression Coefficients for Predicting Midterm Performance in MMW by Profile Variables

Variable	B	t	p	Remarks
(Constant)	82.188	37.272	.000	Significant
Sex at Birth	-.724	-1.323	.186	Not Significant
Program	-1.555	-7.959	.000	Significant
College	6.507	6.213	.000	Significant
Faculty	-.528	-1.309	.191	Not Significant

Note: $R = 0.329, R^2_{adj} = 0.104\ (F(4, 758) = 22.997, p = 0.00)$

A multiple regression was run to predict the performance in MMW from sex, program, college, and instructor. These variables statistically significantly predict midterm performance, $F(4,\ 758) = 22.997,\ p = 0.000$. Although the quality of prediction of the profiles to the midterm performance which is 32.9% is low, and the proportion of variance of the midterm performance that can be explained by the profile is 10.4%. The general form of the equation to predict midterm performance from sex, program, college, and instructor is: $Predicted\ \ MT = 82.188 - 0.724(sex) - 1.555(program) + 6.507(college) - 0.528(Faculty)$. The coefficient indicates that only the program and the college can predict the midterm performance of the student-respondents, p<0.05.

Research on gender differences in mathematics performance has yielded mixed results. Reilly (2019) found small to medium-sized gender differences in mathematics achievement, with boys reporting more favorable attitudes and girls reporting lower self- efficacy beliefs. However, Copur-Gencturk (2019) revealed biases against female, Black, and Hispanic students in teachers' evaluations of mathematical ability. O'Connell (2018)

emphasized the role of student ability and past performance in predicting success in mathematics courses, while Bada (2018) found a low positive correlation between gender and academic achievement in mathematics and science. These studies suggest that while gender, course, and professor choice may play a role in predicting midterm performance in mathematics, they are not the only factors at play.

Table 4.2
Regression Coefficients for Predicting Final Term Performance in MMW by Profile Variables

Variable	B	t	p	Remarks
(Constant)	80.843	38.299	.000	Significant
Sex at Birth	-1.069	-5.671	.000	Not Significant
Program	5.183	5.162	.000	Significant
College	-.808	-1.511	.131	Significant
Faculty	.163	.424	.672	Not Significant

Note: $R = 0.241, R^2_{adj} = 0.053\ (F(4, 727) = 11.196, p = 0.00)$

Multiple regression was run to predict the performance in MMW from sex, program, college, and instructor. These variables statistically significantly predict final performance,
$F(4,\ 727) = 11.196,\ p = 0.000$. Although the quality of prediction of the profiles to the finals performance which is 24.1% is low, and the proportion of variance of the final performance that can be explained by the profile is 5.3%. The general form of the equation to predict midterm performance from sex, program, college, and instructor is: $Predicted\ FG = 80.843 - 1.069(sex) + 5.183(program) - 9.808(college) - 0.163(Faculty)$.

The coefficient indicates that only the program and the college can predict the midterm performance of the student-respondents, p<0.05.

Regression coefficients for predicting final term performance in mathematics by student's gender, course, and chosen professor were examined in multiple studies. Hurdle et al. (2022) found that course times, gender, major, instructor, and term were significant variables in performance, with time having a significant impact. Zogheib et al. (2014) discovered that student gender was the most significant predictor of performance, with female students outperforming male students. Hasanah et al. (2022) used linear regression to predict academic performance in mathematics and found that the failure variable had a positive effect on performance. Morales-Jiménez (2022) proposed a regression-based early prediction system for student achievement, which showed promising results in predicting final scores. Overall, these studies highlight the importance of considering various factors, such as gender, course times, and instructor, in predicting mathematics performance.

Conclusions

Based on the findings, the following conclusions were drawn:

1. The typical respondent of the study was female, taking Bachelor of Science in Customs Administration under the College of Business and Accountancy and was taught by Instructor B.
2. The average midterm performance of the student-respondents was 78.86 which is low average and the average final performance 80.91 which is average. This performance is way low for a college student.
3. There is a significant difference on the performance of the student-respondents when grouped according to profile, specifically:

    3.1. female performed better than male both for the midterm and final term;
    3.2. elementary education students performed better than physical education students on midterm and accountancy students performed better than communication arts students for final term;
    3.3. students under hospitality and tourism management performed better that accountancy students during the midterm while hospitality and tourism students performed better than education and arts students;
    3.4. students under instructor A performed better than students under instructor C during the midterm, while student under instructor B performed better than
    students under instructor C on final term.

4. Profile variables have statistically significant effect on grades of the student-respondents. Particularly, the course program and what college the students are in have significant effect on the performance in Mathematics in the Modern World.

Recommendations

1. Faculty must use consultation time to help the challenged students.
2. The Math and Physics Department must foster a peer tutoring program in collaboration with the BSED Mathematics Students and Gordon College Tribo ng Math (GCTM). This may be of great help for the challenged students.
3. Revisit the distribution of the topics in the syllabus for mid and final terms. There are 199 or 26.01% who failed during the midterm. While there are 92 or 12.02% during the final term.
4. Revisit and revise the strategies in handling different programs base on the OBTL syllabus. The course is general in context but must be applied to the specific program of the students particularly in giving activities and sample problems.

Compliance with Ethical Standards

Ethical considerations were include obtaining prior informed consent from all participants, ensuring confidentiality of responses, and addressing potential limitations such as reliance on self-reported data and possible response biases. All participants can withdraw from or exit the research at any time without feeling obligated. The participants are not

required to give a reason for leaving the research. It is critical to emphasize to participants that there will be no negative consequences or ramifications for refusing to engage. After all, they are spending the time to assist with study, so they should appreciate their judgments without attempting to modify them.

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BRIDGING THE GAP: UTILIZATION OF INTERACTIVE GAMES THROUGH CLASSPOINT APPLICATION TO INCREASE PUPILS' PERFORMANCE IN MATHEMATICS 4 SYNCHRONOUS LEARNING

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ABSTRACT

With learners growing more digitally aware by the day, it is necessary to develop more relevant ways to the use of technology in the classroom. This research determined the effectiveness of the Utilization of Interactive Games Through ClassPoint Application in enhancing the mathematics performance of grade 4 learners. This study used a pretest- posttest quasi-experimental design. The study's participants were grade 4 students from Juan Sumulong Elementary School S.Y. 2021-2022. Among the grade 4 learners, 25 pairs were selected using match-pairing. These pairs of learners were from the online distance learning modality and modular learning distance modality. The mean and standard deviation were used to assess participants' performance in pretest and post- test. Likewise, an independent t-test was used to evaluate the significant difference between the two groups' pretest and posttest. This study was able to determine that the use of interactive games using the ClassPoint Application in teaching Mathematics can assist learners improve their performance. It was concluded that the planned intervention met the needs of the learners' numeracy challenges.

Keywords: *interactive games, ClassPoint application, innovation, learning outcomes*

INTRODUCTION

The use of technology in instruction has become essential in the ever-changing field of education in order to provide interesting and successful teaching strategies. The issue for educators is to adapt traditional teaching methodologies to a digital environment as the globe moves towards online distant learning. The teaching of mathematics is one field that has undergone significant change, and the use of interactive games via platforms such as ClassPoint is a potent tool in this endeavor.

The typical classroom environment frequently depends on chalkboards and textbooks, limiting the opportunities for dynamic and immersive learning experiences, particularly in a topic as dynamic as mathematics. However, with the introduction of online platforms such as ClassPoint, educators now have a diverse tool at their disposal to take mathematics instruction to new heights.

Interactive games can help students have a better understanding of mathematical ideas. Educators may convert seemingly complicated mathematical problems into interesting challenges that captivate students' attention and create a love of learning by introducing gamification aspects into classes. ClassPoint's interactive capabilities make it possible to seamlessly integrate these activities into virtual classrooms, bridging the gap between traditional and online teaching approaches.

The use of interactive games in mathematics education not only provides a fun factor, but it also develops students' critical thinking skills and problem-solving ability. Educators may use ClassPoint to build interactive quizzes, puzzles, and simulations that stimulate active involvement and make learning more interesting and effective. This strategy not only accommodates different learning styles, but also guarantees that students are actively engaged in their own learning path.

Furthermore, through the integration of ClassPoint with interactive games, instructors may track and analyze student progress in real time. This useful feedback loop allows teachers to discover areas of difficulty, modify their teaching tactics, and give personalized help to individual pupils. The platform's data analytics capabilities enable instructors to make more informed decisions, resulting in better student results.

In accordance with its legislative mandate, DepEd has released directives on flexible learning and resources, particularly DepEd Order No. 021, s. 2019, in addition to the K– 12 Basic Education Program Policy Guidelines. It describes FLOs, or Flexible Learning Options. FLO, remote learning, and alternative delivery modes have been used throughout this epidemic and must be embraced in order to ensure students' safety and the continuation of their education. Self-Learning Modules (SLM) based on DepEd's most important learning skills (MELCS) are used in modular learning, a sort of online learning. As part of blended learning, students get instruction via a range of media, such as the internet, television, radio, and printed materials.

Even though some parents have voiced anxiety over their children's future education. Despite the outbreak, the Department of Education has declared that other methods would be used dependent on pupils' access to technology and their condition. "Some of the classes will be delivered through various platforms, while others will be completed at home," said Education Secretary Leonor Magtolis Briones at a virtual press conference. Educational institutions are working hard to discover solutions to this tough problem.

On the other hand, the worldwide pandemic provides a chance for educators to improve the way they teach students in any topic utilizing several media. It may be a problem for many, but on the bright side, it would be an opportunity to improve one's abilities and tactics in the teaching and learning process. The current scenario, on the other hand, is unfamiliar to everyone; no official training or preparation was provided for the execution of the Basic Education Learning Continuity Plan in the continuation of education in the new normal, and it has become a hot subject among educators, parents, and students. Nonetheless, everyone must confront the problems posed by the public health crisis, and as Secretary Leonor Briones of the Department of Education stated, “Time is of the essence, and teachers, students, and parents must learn to adapt.”

Juan Sumulong Elementary School polled students before the start of the School Year 2021-2022 to choose their favorite learning modality throughout the pandemic. A poll found that modular learning is the most requested learning delivery method among students for their children this school year. However, most Grade 4 parents preferred Distance Blended instruction (a blend of modular and online instruction).

As a result, Juan Sumulong Elementary School addressed and catered to students who selected blended learning. Using synchronous online distance learning is a difficult mode of delivery because teaching online without meeting my students directly is very difficult and difficult to decide or select on what particular teaching strategy will suit my learners' needs, interests, and abilities and can guarantee maximum retention and application of the learning that is achieved.

Because modular learning is designed for independent learning during offline learning, no teachers must provide ongoing encouragement and assistance to students when learning becomes tough, stressful, dull, or uninteresting. The majority of students and parents complained about what and how to accomplish the assigned chores, and teachers also complained about decreased pupil learning achievement. As a result, the author, as the Grade 4 GT adviser, began conceptualizing a support teaching method that will cognitively boost the learners and target kids who may struggle in learning Mathematics using a blended learning modality.

Quality teaching should not be neglected in the advancement of education. According to study of Rondina and Roble (2019) mathematical game-based design activities such as “A Line To Win” was an effective method to improve computational skills of the students while the “Slide A Picture” was instrumental in teaching the students the sketching of the graphs of a quadratic functions. Furthermore, the mathematics game-based design activities demonstrated a positive influence on students learning gains in Algebra. With

this, teachers in mathematics may integrate game-based design activities in teaching to make the learners enjoy and arouse their interest in the process of learning and they hope that this way of learning may continue in the future in their upper-level mathematics. Since this study focused only on two offline mathematics game-based design activities, teachers may also explore other games such as those digitally based activities where adventure, simulation and strategy are integrated and provides students with animations and further analyze the impact on these strategy on students' attitude and study habits. İn depth analysis may also be considered on student-to-student interaction during the implementation of game-based activities as well as their level of creativity in solving mathematical problems.

White (2019) revealed that there is a strong relationship between game-based learning and student attitude and achievement in mathematics, there are important limitations to note. The study was limited in the areas of size, duration, and content. The results from the study represent the findings from one sample of students during one week of the year, focused on one unit of the curriculum. In order to gain more significant insight into the effects of GBL on student attitude and achievement and to control for potential extraneous variables, more research should be conducted.

The results of this study have many implications for teachers and students in the math classroom. The participants demonstrated significant improvements both in their attitudes about math and their achievement in ordered pairs. Thus, this action research study corroborated the literature surrounding the positive impact of serious games on attitude and achievement. These results may encourage other researchers and practitioners to continue investigating. The teacher researcher author will definitely continue investigating and integrating game-based learning into instruction on a regular basis.

According to the study of Ramli et al (2020), state that the application of technology in the teaching and learning process is in line with the needs of nowadays' students. The application of GBL with the help of technology has a great impact in helping to improve the quality of teaching and learning of Mathematics. The application of GBL has a positive impact on student motivation and involvement in Mathematics learning. Further reading should be made on the motivational impact of student self-efficacy. This is because previous studies have also found that student motivation influences students' self-efficacy in that students who believe in their own abilities are more motivated to engage in learning (Bandura, 2006). This indicates that low levels of student motivation result in lower student self-efficacy in Mathematics. Therefore, the application of GBL in Mathematics needs to be explored in order to impact the quality of teaching and learning of Mathematics.

Gaylo et al (2019) revealed that the mathematical aptitude of the respondents was at Low Average, showing that the learners showed little knowledge and understanding in the mathematical concepts tested. Moreover, the extent of exposure of the learners in the study is Slightly Exposed to the different levels of interactive games. Further, there is no significant difference in the mathematical aptitude of secondary school learners when

grouped according to the levels of interactivity of games they play and their extent of exposure.

In the study of Sapin and Orbon (2022) state that using game-based learning the students' capacity to think were developed, comprehend underlying ideas, and solve challenging mathematical problems when they learn mathematics through games. While having fun, educational games encourage students to come up with original ideas and push them to learn more quickly. Instructional games only make arithmetic ideas easier for pupils to comprehend and retain. Their confidence is increased by the conversations students have with one another to provide a lasting learning effect. Together, games help learners feel powerful and on par with their peers. Moreover, game-based learning using different game application tools emphasizes the importance of strengthening the foundation of math concepts and the mathematical proficiency to solve various problems in math.

According to the study of Khalid et al (2022), the results show that digital GBL helped increase the students' achievement in mathematics. Moreover, the LA process could be used as a mathematics achievement prediction model. In this regard, data on login frequency, duration of use, and the score to predict could be used to predict the intervention's impact on mathematics achievements. The study concludes by discussing the findings and their implications towards GBL and LA-based research and practice in mathematics teaching and learning. The application of game-based learning (GBL) provides many benefits, such as helping to improve the quality of the mathematics teaching and learning process.

To ensure that teachers provide quality and appropriate instruction for the various types of learners when it comes to teaching mathematics, this study presents an innovation that addresses the needs of the learners while also motivating them to learn Mathematics even through distance learning. The research's major goal is to make the teaching- learning process more interactive. Using ClassPoint to teach Mathematics will make the subject more attractive to the students. Furthermore, the objective of the study is to determine the use of engaging and interactive games through ClassPoint application in increase the performance and boost pupils' involvement in Mathematics 4.

Research Questions

The main purpose of this study is to determine the effectiveness of the utilization of Interactive Games through ClassPoint Application as support strategy during pandemic and identify pupils learning' experiences after the intervention. Specifically, the researcher seeks to answer the following questions:

1. What is the level of learning performance of the two groups of respondents exposed and unexposed to interactive games through ClassPoint application as revealed in the pretest and posttest results?
2. Is there a significant difference on the level of learning performance of the two groups of respondents exposed and unexposed to interactive games through ClassPoint application as revealed in the pretest and posttest results?

3. What action plan may be proposed to enhance the Mathematics Performance of Grade 4 pupils?

METHODOLOGY

A. Participants and/or other Sources of Data and Information

The respondents of this study were the grade 4 learners of Juan Sumulong Elementary School, District II-A, City Schools Division Office of Antipolo, School Year 2021-2022. They were selected through using the match-pairing technique. A match-pairing strategy was applied in this study. This method is frequently used to place one individual in a treatment group and the other in a comparison group. Before the study, two groups of grade 4 students were given the pre-test. The learners who partnered with their match based on their results were the study's participants after the scores were analyzed. The experimental group consisted of 25 learners who received blended-distance delivery learning, whereas the unexposed group consisted of 25 learners who received modular- distance learning.

Table 1. Participants of the Study

Group	N	Selected Participants	Blind Participants
Exposed Group	40	25	15
Unexposed Group	40	25	15
Total	80	50	30

Table 1 shows the outcomes of the study's participant selection process. It appears that there were only 50 learners out of 80 participants, with 25 pairings selected by match- pairing. According to the pretest findings, 30 learners were classified as blind participants who did not have a pair.

The utilization of Interactive Games through ClassPoint Application was employed as one of the key instruments in this study, and survey questionnaires will be used to validate the Interactive Games through ClassPoint Application prior to its deployment. It includes questions that focus on the MELCs as well as entertaining activities to help pupils learn math.

The researcher's pretest and posttest were utilized as instruments in measuring the efficacy of the use of Interactive Games via ClassPoint Application. The pretest and posttest comprised twenty questions covering the same learning abilities. It covered the MELCs that were addressed over the week.

Participants' performance in the pretest and posttest was calculated using the mean and standard deviation. Similarly, to establish the significance of the difference in pretest and posttest scores between the two groups, an independent t-test was used.

Furthermore, the dependent t-test (or paired sample t-test) was utilized in this study. The dependent t-test compares the means of two groups that are closely connected to see if there is a statistically significant difference.

B. Data Gathering Methods

The researcher submitted the research proposal for examination and approval to the Schools Division Office-Research Evaluation Committee. Following approval, the letter of consent/assent was delivered to the parents to determine whether they would allow their children to participate in the study. The questionnaire was floated or emailed by messenger link. The assessment pretest was given to students with parent aid or supervision before the intervention, and the post-test was administered after the intervention. The questionnaires were disinfected both before and after distribution. The responses were categorized using an appropriate coding system, and the data was tabulated for better presentation.

RESULTS

Table 2

Level of Learning Performance of the Two Groups of Respondents Exposed and Unexposed to the Utilization of Interactive Games through ClassPoint Application as Revealed in their Pretest and Posttest Results

%	Verbal Interpretation	Exposed				Unexposed			
		Pretest		Posttest		Pretest		Posttest	
		f	%	f	%	f	%	f	%
90% - 100%	Highly Proficient	0	0	12	48	0	0	0	0
75% - 89%	Proficient	0	0	13	52	0	0	5	20
50% - 74%	Nearly Proficient	7	28	0	0	7	28	20	80
25% - 49%	Low Proficient	18	72	0	0	18	72	0	0
0% - 24%	Non-Proficient	0	0	0	0	0	0	0	0
Total		25	100	25	100	25	100	25	100
Highest Score		10		20		10		15	
Lowest Score		5		15		5		10	
Mean		7.8		17.48		7.76		12.68	
Mean Percentage Score		39		87.4		38.8		63.4	
Std. Deviation		1.85		2.14		1.89		1.88	

Table 3

Result of the t-test in the Significant Difference on the Level of Learning Performance of the Two Groups of Respondents as Revealed in the Pretest and Posttest Results

Group	Test	N	Mean	SD	t-value	p-value	Ho	VI
Exposed	Pretest	40	7.8	1.85	17.1097	0.000	Rejected	Significant
	Posttest	40	17.48	2.14				
Unexposed	Pretest	40	7.76	1.89	9.2280	0.000	Rejected	Significant
	Posttest	40	12.68	1.88				

DISCUSSION

1. Level of Learning Performance of the Two Groups of Respondents Exposed and Unexposed to the Utilization of Interactive Games through ClassPoint Application as Revealed in their Pretest and Posttest Results

Table 2 presents the level of learning performance of the two groups of respondents exposed and unexposed to the Utilization of Interactive Games through ClassPoint Application as revealed in their pretest and posttest results.

As depicted on the table, pupils who utilized interactive games through ClassPoint application obtained 18 or 72 percent in the pretest interpreted as Low Proficient and 13 or 52 percent in the posttest interpreted as Proficient. Meanwhile, pupils unexposed to interactive games obtained 18 or 72 percent in the pretest interpreted as Low Proficient and 20 or 80 percent in the posttest interpreted as Nearly Proficient.

The table depicts that the learning performance of the pupils exposed to the utilization of interactive games through ClassPoint Application obtained a mean of 7.8 in the pretest and 17.48 in the posttest and a standard deviation of 1.85 and 2.14, respectively. On the other hand, pupils who are unexposed to innovation obtained a mean of 7.76 in the pretest and 12.68 in the posttest and a standard deviation of 1.89 and 1.88, respectively.

It can be noted that pupils in the exposed group obtained the mean percentage score of 39 in the pretest and 87.4 in the posttest. Hence, the unexposed group obtained 38.8 mean percentage score in the pretest while 63.4 were obtained in the posttest.

This means that the exposed groups of pupils obtained a proficient performance as reflected from their average scores as reflected in the posttest. This further means that majority of the pupils exposed to the innovation have a Proficient performance.

2. **Significant Difference on the Level of Learning Performance of the Two Groups of Respondents Exposed and Unexposed to the Utilization of Interactive Games through ClassPoint Application as Revealed in the Pretest and Posttest Results**

Table 3 presents the result of the t-test on the significant difference on the level of learning performance of the two groups of respondents exposed and unexposed to the Utilization of Interactive Games through ClassPoint Application as revealed in the pretest and posttest results.

As gleaned from the table, the computed t-values on the learning performance of the respondents exposed to the Utilization of Interactive Games through ClassPoint Application with a computed t-values of 17.1097 obtained probability values of 000 lesser than .05 level of significance. On the other hand, pupils who are unexposed to the Utilization of Interactive Games through ClassPoint Application obtained computed values of 9.2280 with probability values of .000 lesser than .05 level of significance. Thus, the null hypotheses for the Utilization of Interactive Games through ClassPoint Application are rejected and found significant. This further explains that on the Utilization of Interactive Games through ClassPoint Application both groups improved to a certain level as revealed in the pretest and posttest result, thus, it is significant.

The study concluded that pupil-respondents improved their learning performance before and after exposure to the Utilization of Interactive Games through ClassPoint Application as revealed on the results of the pretest and posttest. This means that exposure to the Utilization of Interactive Games through ClassPoint Application may improve the learning performance of pupils in Mathematics subjects.

This implies that exposure to different programs of learning enhances the quality of teaching and learning. This also provides pupils to acquire certain knowledge and skills to a certain subject during exposure to a certain program.

Conclusions

Based on the data collected and analyzed, the null hypotheses, which state that there is no significant difference between the formative tests, posttest, and pretest mean scores of the two groups, were rejected. Moreover, the results show that the utilization of Interactive Games Through ClassPoint Application in teaching mathematics can help strengthen the performance of the learners. It may also be inferred that students enjoy technology-based learning activities. It follows that the intervention's design was successful in meeting the needs of the students' numeracy problems.

Recommendations

Using the findings and conclusions as bases, the following recommendations were suggested:

1. The teachers are encouraged to conduct numeracy programs and activities to enhance the level of learning performance of grade four pupils.
2. The school management must support the teachers' efforts. Financial assistance should also be acknowledged.
3. Teachers may receive technical support from school and department heads in the development and validation of materials. The conduct of various programs and activities with regards to mathematics may be deemed helpful to the improvement of pupils learning performance. 4.Further studies may conduct studies along this area using other variables.

Compliance with Ethical Standards

Some ethical considerations that researchers must be mindful of, especially during the process of gathering and presenting research data: The rights to privacy of the individuals involved. The nature of participation in the research must be voluntary and the individuals involved must have the right to withdraw partially or completely from the process. All participants must provide their consent first. Maintenance of the confidentiality of data provided by individuals as well as identifiable participants' anonymity. How participants react to the researchers' methods in seeking to collect data. How the participants will be affected by the way in which data is analyzed and reported. The behavior and objectivity of the researcher.

This research was guided by the ethical principles of informing consent, confidentiality and showed no harm to participants. Under some reasonable grounds, the specific characteristics and answers of the respondents was held confidential. To secure the informed consent of the respondents or participants in this study, the questionnaires open with a letter described the purpose of the study. The respondents were instructed that they were free not to participate in the study and answer the survey instrument, they were assured that their schools' identities would be treated with utmost confidentiality.

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CAPACITATE AND REACH: INCREASE TEACHERS' RESEARCH CAPABILITY THROUGH PROJECT MARE

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ABSTRACT

This research paper focused on the increase in research performance among the Langgas National High School faculty members using Project MARE (Motivate and Activate Research Enthusiast).This study utilized a One-group pretest-posttest method under a Pre-experimental research design. On pre-survey, teacher-respondents' responses generally fall into poor with a weighted mean of 2.05 to 2.4; and very poor has a weighted mean of 1.65 to 1.9. Teachers find it laborious to conduct and gain knowledge on research for they are having challenges with different workloads and ancillaries. Upon the conduct of an intervention, the weighted mean rises from 3.25 up to 3.9 with an interpretation of acceptable on questions 1 to 10. Teacher-respondents' level of motivation in conducting action research, showed that during the pre-survey, six questions had a weighted mean that ranged from 2 to 2.9; three questions had a weighted mean that ranged from 3 to 3.25, and one question had a weighted mean of 1.85. Undeniably, upon the conduct of an intervention teachers' motivation increased to 3.25 up to 4.14. Motivation plays a pivotal role in boosting teachers' interest in research.

Keywords: *PROJECT MARE, Action Research, Teachers' Research Competence*

INTRODUCTION

What impact does research really have on education in teaching and learning? This particular question plaque not only the students but on teachers as well. According to specialists, there are numerous reasons why research is vital in the field of education. Research helps students become more self-sufficient; as a result of research, students improve their ability to ferret out knowledge on a given topic with a deeper functional dive into the subject matter under investigation. More than usual, conducting research permits students to see the current talks about a given topic.

Moreover, research provides a way to growth and prosperity; research integrates the known with the unknown. Research becomes the way to growth and prosperity. Existing knowledge, gleaned from past research, serves as the foundation for acquiring new knowledge. New knowledge is created as a result of new research. Thus, in the absence of inquiry, the knowledge continuum is severed. It sows the seeds of scientific inquiry in future generations. Today's globalized and highly competitive world requires younger generations to think critically and creatively in order to respond to potential issues. As a result of research and education, the next generation is inspired and prepared to discover new knowledge that will benefit our community.

However, despite its positive effects upon classroom teaching and learning (Mahani, 2012; O'Connor, Greene & Anderson, 2006), a number of studies have reported some factors that prevent teachers from doing research. Crowded teaching timetables, heavy teaching workloads (Kutlay, 2013; Morales, 2016; Ulla, 2018), insufficient research training (Ellis & Loughland, 2016), lack of research skills (Vásquez, 2017), lack of financial support, and limited time to do research (Norasmah & Chia, 2016) often constitute the primary challenges and concerns faced by teachers and other educators aspiring to undertake research.

In the Philippines, doing research has become one of the important professional development programs for teachers that is emphasized by the Department of Education (DepEd) and the Commission on Higher Education (CHED) (Ulla, 2017). Teachers both from private and public educational institutions are encouraged to conduct action research in order to identify and address the teaching and learning issues and concerns in their classrooms and in the school. Thus, doing research has now become a part of every teacher's teaching evaluation and performance appraisal at the end of the school year (Ulla, 2016). DepEd has ordered its school heads and administrators across the country to adopt the "enclosed Basic Education Research Agenda" which promotes the conduct of research in schools by teachers (DepEd, 2016). The purpose is to discover schools' issues and solutions and form a part of teachers' professional development and skills enhancement.

Langgas National High School, as one of the public schools in Infanta, is struggling to uplift and develop research capability among the teachers. For the past 5 years, only two teachers were able to finish and submit complete action research. The School Planning Team (SPT) saw the magnitude of the issue and the urgency of the matter. As a result, the research team crafted the action plan that highlighted a series of LAC sessions that would give teachers the "know-how" in research, and Project MARE was conceptualized.

Project MARE deals with motivating teachers to conduct research. It is imparting knowledge in writing and crafting action research that would address challenges encountered on school premises and other factors that would affect students' performance in school. Project MARE started last November, 2022. It was the onset of the first LAC session in designing action research.

Research Questions

This research paper focused on the increase in research performance among the Langgas National High School faculty members using Project MARE (Motivate and Activate Research Enthusiast). Specifically, it sought to answer the following questions:

1. What is the level of motivation and knowledge in research of teacher-respondents before and after the intervention?
2. Is there a significant difference in the level of motivation of the teachers in research before and after the implementation of Project MARE?
3. What is the implication of the findings in Schools' Governance in SBM as to research?

METHODOLOGY

Research Design

This study utilized a One-group pretest-posttest method under a Pre-experimental research design

A One-group pretest-posttest is a single case observed at two-time points, one before the treatment and one after the treatment. Changes in the outcome of interest are presumed to be the result of the intervention or treatment. No control or comparison group is employed.

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Research Locale

Langgas National High School is one of the Barangay Schools in Infanta, Quezon. It is a public school located in Brgy. Langgas Infanta, Quezon. This medium-sized school has a full-time principal, sixteen (15) junior high teachers, five (5) senior high teachers, two administrative support staff, and 476 students. Alitas, Anibong, Langgas, Bacong, and Balobo are among the neighboring barangays served by its five service zones. The researcher chose this school for the simplicity of doing the research, so the researcher additionally works as a teacher.

Population and sampling

The respondents were the Junior and Senior High School teachers in Langgas National High School. It includes 15 respondents from Junior High School and five respondents from Senior High School. Complete enumeration was employed to achieve the objective of the study.

Research Instrument

The researcher's primary research tool was a self-created pre-survey and post- survey form. The content of the questionnaire was evaluated by an Infanta District school head and two master teachers. The instrument is broken into three sections, the first of which comprises the respondents' demographic profile, such as age, educational achievement, status, and so on which are optional. The second part deals with the respondents' knowledge in creating and developing action research. The motivational level of respondents before and after the session is then assessed using ten questions. Using a Likert scale, respondents placed a checkmark next to each matching item. To test the level of reliability of the research instrument, the researcher conducted a dry-run in Alitas Elementary School and utilized Cronbach's Alpha method to measure its internal consistency in responses.

Data Gathering Procedure

These are the data-gathering processes that were taken into account for systematic data collection and consolidation:

1. Designed a survey instrument that addresses the research objectives and variables.
2. The professional expertise of Infanta District School Head and Master Teachers were used to validate the survey instrument's content.
3. The survey questionnaire was tested through a dry run from twenty (20) public teachers in Alitas Elementary School.
4. The researcher collaborated with the school principal on the research aims and objectives, including the duration of program implementation as well as the covered period in data collecting and instrument use.
5. Sent a letter to the school administrator requesting official documentation on Project MARE's progress.
6. Surveys were conducted among respondents before and after the intervention.
7. The results were tabulated and analyzed.

Statistical Treatment

To validate the survey questionnaire, Cronbach's alpha was used. The formula for Cronbach's alpha is:

$$\alpha = \frac{k}{k-1}\left(1 - \frac{\sum V_i}{V_t}\right)$$

...where: k refers to the number of scale items

$\sigma_{y_i}^2$ refers to the variance associated with item i

σ_x^2 refers to the variance associated with the observed total scores

To answer research question number one, the mean scores from the pretest and posttest were compared to determine whether or not the intervention gained positive results. The formula for getting mean scores is:

$$\overline{X} = \frac{\sum X}{N}$$

Where:

$\overline{x}$ = Mean

$\sum X$ =sum of scores

N = total number of respondents

To answer question number two, the post-test and pretest mean scores were compared and tested for the significant difference using paired t-test. The formula for getting paired t-test is:

$$t = \frac{\Sigma d}{\sqrt{\frac{n\left(\Sigma d^2\right) - \left(\Sigma d\right)^2}{n-1}}}$$

Where:

d = difference per paired value

n = number of samples

RESULTS AND DISCUSSION

Cronbach's Alpha Result

The Cronbach's Alpha for questions that include knowledge and understanding of conducting and writing action research was 0.94, indicating EXCELLENT internal consistency in the responses while the questions that deal with the levels of motivation of teachers in conducting action research was 0.89, indicating GOOD internal consistency in the responses.

Pre-Survey and Post-Survey Weighted Mean Result

TABLE 1. Teachers' Knowledge and Understanding in Conducting and Writing Action Research

Pre-survey			Post-survey		
	Weighted Mean	Interpretation		Weighted Mean	Interpretation
1	2.2	Poor	1	3.25	Acceptable
2	2.2	Poor	2	3.55	Acceptable
3	2.1	Poor	3	3.3	Acceptable
4	2.4	Poor	4	3.9	Acceptable
5	1.95	Very Poor	5	3.6	Acceptable
6	2.05	Poor	6	3.47	Acceptable
7	1.7	Very Poor	7	3.45	Acceptable
8	1.65	Very Poor	8	3.35	Acceptable
9	2.35	Poor	9	3.9	Acceptable
10	1.85	Very Poor	10	3.35	Acceptable

5 – Very Good 4 – Good
3 – Acceptable
2 – Poor
1 – Very Poor

As viewed from Table 1, the weighted mean on teachers' knowledge and understanding in conducting and writing action research increased after the intervention was made.

On pre-survey, teacher-respondents' responses generally fall into poor with a weighted mean of 2.05 to 2.4; and very poor has a weighted mean of 1.65 to 1.9. Teachers find it laborious to conduct and gain knowledge on research for they are having challenges with different workloads and ancillaries. According to Cain, 2011, undertaking school or classroom-based research as a sort of professional development activity may be both gratifying and demanding for teachers and other education practitioners. Although undertaking research can enhance teachers' professional qualifications, skills, and experience, many instructors are hesitant to do so because it entails additional workloads on top of their teaching load, and a number of studies have looked into aspects related to this issue. This is in ligned with the study of Borreo (2023), where the school research coordinators and enthusiasts experienced challenges in conducting an action research including the lack of training and having someone who who will guide them in doing one. Hence, a research capacity building was proposed and implemented as to address these challenges.

TABLE 2. Level of Motivation of Teachers in Conducting Action Research

Pre-survey			**Post-survey**		
	Weighted Mean	Interpretation		Weighted Mean	Interpretation
1	2	Disagree	1	3.25	Neither Agree nor Disagree
2	2.4	Disagree	2	3.9	Neither Agree nor Disagree
3	2.65	Disagree	3	4	Agree
4	3.1	Neither Agree nor Disagree	4	4.1	Agree
5	3.25	Neither Agree nor Disagree	5	4.3	Agree
6	3	Neither Agree nor Disagree	6	4.2	Agree
7	2.9	Disagree	7	4.15	Agree
8	2.3	Disagree	8	4.05	Agree
9	2.4	Disagree	9	3.9	Neither Agree nor Disagree
10	1.85	Strongly Disagree	10	3.25	Neither Agree nor Disagree

5 – Strongly Agree 4 – Agree
3 – Neither Agree or Disagree 2 – Disagree
1 – Strongly Disagree

Table 2 reveals the weighted mean score of teacher-respondents on the level of motivation in conducting action research. It can be gleaned from the table that during the pre-survey, six questions had a weighted mean that ranged from 2 to 2.9; three questions had a weighted mean that ranged from 3 to 3.25, and one question had a weighted mean of 1.85.

Undeniably, upon the conduct of an intervention on teachers' motivation increased to 3.25 up to 4.14. Motivation plays a pivotal role in boosting teachers' interest in research. As Quain, 2019 stated that; when your employees are motivated by monetary and non-

monetary rewards, they are more inclined to feel empowered to perform at a consistently high level.

T-Test Result

Table 3. Significant difference in the level of motivation of the teachers in research before and after the implementation of Project MARE

Survey	Mean	SD	Difference between Means	T-Computed	P-value	Difference
Pre	23.15	8.93	13.88	-8.23	<0.001	Significant
Post	37.03	6.92				

Table 3 reveals the level of motivation of teacher-respondents in research before and after the intervention. The mean of the pre-survey and post-survey were 23.15 and 37.03 with a mean difference of 13.88; and a standard deviation of 8.93 and 6.92 respectively. The computed t-value at 0.05 levels of significance was -8.23 which showed that there was a significant difference between pre-survey and post-survey. Therefore, the null hypothesis "There is no significant difference in the level of motivation of the teachers in research before and after the implementation of Project MARE" is rejected. There was an improvement in the level of motivation in research according to teachers of Langgas National High School through Project MARE.

Conclusions

Based on the findings of the action research the following conclusions were drawn:

1. Most of the respondents, before the intervention was conducted, had a poor to very poor knowledge of conducting research, however, upon injecting the intervention their knowledge and understanding of conducting research increased to an acceptable level.
2. The respondents' motivation increased after the intervention of Project MARE.
3. There is a significant difference between pre-survey and post-survey of the intervention

Recommendations

The researcher submitted the following recommendations based on the conclusions:

1. LAC sessions should be utilized for further research-related understanding and capacity.
2. Enhancement of motivation to continuously entice and involve teachers in conducting action research.
3. The school research coordinator should keep herself abreast with the current

changes and developments in research to impart the “know-how” in crafting research to provide solutions to classroom-related issues

Compliance with Ethical Standards

For ethical and professional considerations, permission from the School Head was solicited, then, the participants were informed of the purpose of the study and assured that the results were held with the utmost confidentiality.

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PARENT'S STRESS INVENTORY: A TOOL DEVELOPMENT

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ABSTRACT

This study introduces the Stress Inventory, an assessment tool designed specifically to evaluate parental stress. The inventory utilizes a 4-point Likert scale to gauge the severity of stress with 37 statements. Every statement explores the presence of stress manifestations among parents throughout the previous 14 days. The research involved 697 parents from Cebu City, utilizing the inventory to assess stress status. The analysis indicated that the Cronbach's alpha coefficient for each statement remained within the acceptable range, affirming the reliability of the inventory in measuring parental stress level. The utilization of Cronbach's alpha scores to evaluate each statement within the inventory displayed a remarkable level of reliability and internal consistency. These scores fell within the acceptable range, underscoring a high level of coherence and interconnectedness among the queries assessing parental stress. Hence, these robust metrics provide a solid foundation for accurately gauging and comprehending the intricate experiences of stress encountered by parents. Conclusively, the Stress Inventory emerges as a dependable and valid tool for comprehensively evaluating the range of stress experienced by parents, providing a valuable instrument for both clinical and research purposes.

Keywords: *Parental stress, Stress inventory, Cronbach's alpha, Emotional manifestations, Cognitive manifestations, Behavioral manifestations, Physiological manifestations*

INTRODUCTION

Parental stress significantly influences family dynamics and the overall well-being of children. Stress has become increasingly prevalent among parents today, as evidenced by various articles and research studies. The challenges of achieving a work- life balance (Gragnano, et al. 2020), contribute significantly to parental stress, often arising from conflicting demands between work and family responsibilities. Additionally, financial pressures, including job instability and rising living costs, have been linked to heightened stress levels among parents (Friedline, et al. 2021). Parenting challenges such as concerns about raising children in a competitive environment, disciplinary issues, and meeting societal expectations also contribute to parental stress. Furthermore, the pervasive influence of technology and social media introduces additional stressors by fostering comparisons, concerns about children's screen time, and unrealistic parenting standards portrayed online. Moreover, as discussed in a study by Adams et al. (2021), the COVID-19 pandemic has significantly amplified parental stress due to health concerns, disruptions in routines, remote learning challenges, and increased caregiving responsibilities.

Recognizing this crucial interplay and all other concerns raised by the clients in the researcher's psychological clinic, this Inventory as a dedicated tool to comprehensively evaluate and understand the levels of stress of parents is designed.

Research Questions

The study aimed to identify the reliability and validity of the newly developed stress inventory in assessing stress among parents. Specifically, it sought answers of the following questions:

1. What is the level of reliability of the stress inventory in measuring the stress manifestations of parents in terms of:
   1.1. cognitive,
   1.2. emotional,
   1.3. behavioral, and
   1.4. physiological?
2. What recommendation may be forwarded for the improvement of the mental health of parents particularly in handling stress.

METHODOLOGY

Participants

The participants of this study were the parents of the enrolled students at the two HEIs of Cebu City. They consist of 192 males (27.54%) and 505 females (72.46%) with a mean age of 41.19. It was conducted on the day the respective institutions held a parents' workshop on mental health. The workshop was facilitated by a Registered

Psychologist and was assisted by guidance counselors, principals, teachers, psychometricians, and psychology interns.

Procedure

The HEIs where the study was conducted, respectively, had workshops about mental health for their institutions. They were held on different dates. During the registration and ushering of the participants, the tool and instructions were given to them. They were informed of the option of wanting to answer the survey or not.

Guidance counselors, teachers, and psychology student interns were strategically assigned within the venue to assist the participants with their concerns or clarifications.

The researcher then prepared the inventory to identify the level of stress of the research participants. An informed consent form was stated at the bottom page of the instrument for the research participants to sign should they agree to participate in the research conducted. An appointment was set with the guidance counselors of the two participating HEIs of Cebu City. The questionnaires were given to each department for review and reproduction.

Before the start of the workshop, a one-hour ushering-in activity was done, where participants were given the instruments and instructions. Guidance counselors, teachers, and psychology interns were strategically situated in the venue to assist at least 5-7 parents, making sure that someone would answer their questions or clarifications. Once the questionnaires were given to them, the consent forms were cut off and gathered, but they were placed separately to further keep the answers random and confidential.

All the questionnaires were then collated into one population. Each statement of the inventory and its corresponding answers were then tallied to produce their frequency and percentage in the population. The researcher then clustered the statements into tables that showed similarities in nature and labeled it with its respective theme.

Instrument

The Stress Inventory is a self-report tool used to gauge levels of stress of parents. A 4-point anchored scale is used to rate the frequency of each manifestation within a fourteen-day timeframe with 0 for Not at all, 1 for Less than half of the number of days in 2 weeks (1-6 days), 2 for More than half of the number of days in 2 weeks (7-13 days), and 3 for Always (Everyday). These constructs assessed various manifestations such as cognitive, emotional, behavioral, and physiological.

Scoring

Each statement in the inventory is scored based on how strongly the manifestations were felt during a specific period. A score of 0 indicates that the manifestations were not felt at all, while a score of 3 indicates that they were felt

every day. Total scores were summed up to get the mean score and were classified as either No, Low, Moderate, and High.

Content Validity of the Instrument

In the development of the inventory, the crucial role of content validity was highlighted, emphasizing its necessity for tests to comprehensively cover the constructs they are designed to assess. This entails a detailed verification process, often requiring consensus among experts for thorough evaluation (Nikolopoulou, 2023). To ensure the assessment tool's relevance, clarity, and comprehensive coverage of the intended construct, an initial review of the items was conducted by experts in psychology, parenting, and psychometrics. Moreover, the qualitative phase of the study utilized a content analysis approach, incorporating semi- structured, in-depth interviews with three psychologists and two psychometrists, all with significant experience in working with parents within their psychological practice. This expert feedback proved instrumental in refining the inventory, guiding the revision, addition, and deletion of items to enhance the instrument's content validity. Such a process was pivotal in ensuring that the inventory accurately reflects the domain of depression among parents, thus making it a valid tool for assessing this specific psychological construct.

Pilot Testing

To ensure the questionnaire really captures what it's meant to, we tested a first version with a small group of 10 parents, split evenly between men and women. This test helped us see if the questions were clear and if the questionnaire was easy to use.

Data Treatment

To evaluate the internal consistency or reliability of the questionnaire items, Cronbach's alpha was employed. This method involves assessing the shared variance or covariance among the items within the instrument compared to the total variance observed. The underlying principle is that a higher covariance among the items, relative to the overall variance, signifies a reliable instrument. Essentially, Cronbach's alpha calculates the average of all possible split-half reliabilities, providing a standardized measure of agreement between the items on a scale from 0 to 1. Higher Cronbach's alpha values suggest a higher level of agreement among the items, reflecting consistency in participants' responses across a set of questions. This consistency is crucial for the development and evaluation of new survey instruments. A Cronbach's alpha threshold of 0.7 was established as a benchmark for sufficient consistency, indicating that the measure is reliable. While values around 0.7 are considered minimally acceptable, they are not ideal; conversely, excessively high values may suggest redundancy among the questions.

RESULTS

In the pursuit of assessing the reliability of each statement within the inventory, the study explored the application of Cronbach's alpha as a key metric. Cronbach's alpha serves as a fundamental tool in evaluating the internal consistency or reliability of the measurement scale employed within the research framework (Goforth, 2015). This statistical method aids in gauging the extent of interrelatedness among the items in the assessment tool, shedding light on how consistently these items measure the same construct. By employing Cronbach's alpha, the investigation aimed to ascertain the reliability of each statement within the stress inventory concerning stress as experienced by parents. This analysis provided crucial insights into the strength and consistency of the inventory's measurements, ensuring a thorough evaluation of the various facets of stress prevalent among the participants (Taber, 2018).

Stress Inventory

Table 1.1 ***Cognitive Manifestation Statements Reliability Statistics (Cronbach Alpha)***

Frequentist Scale Reliability Statistics	
Estimate	**Cronbach's α**
Point estimate	0.915
95% CI lower bound	0.905
95% CI upper bound	0.924

Frequentist Individual Item Reliability Statistics

	If item dropped
Item	**Cronbach's α**
S1	0.908
S3	0.908
S4	0.907
S6	0.905
S7	0.904
S8	0.905
S9	0.912
S16	0.905
S18	0.909
S26	0.904
S34	0.907

Table 1.1 displays key reliability statistics that were calculated using individual item analysis. A strong estimate of internal consistency is revealed by the scale reliability statistics, measured by Cronbach's α, which produce a point estimate of 0.915 with a 95% confidence interval between 0.905 and 0.924. Since none of the individual items considerably increases the overall reliability when eliminated, the values, which range from 0.904 to 0.912, confirm the long-term reliability of the inventory's internal consistency. Among the items in this domain of stress included in the instrument were: S1 “I worry about the tasks/job I am currently doing”, S7 “I am bothered with my family situation, and S34 “I would like to make changes in my life but do not know how.” These statements were considered to be included in the instrument as stress can cause worry and affect decision-making skills (Eske, 2019; Simon et al., 2021).

Collectively, these results highlight the excellent degree of internal consistency and reliability displayed by the scale and each of its items within the assessment tool for assessing cognitive manifestation of stress among parents.

Table 1.2 ***Emotional Manifestation Statements Reliability Statistics (Cronbach Alpha)***

Frequentist Scale Reliability Statistics	
Estimate	**Cronbach's α**
Point estimate	0.895
95% CI lower bound	0.883
95% CI upper bound	0.906

Frequentist Individual Item Reliability Statistics	
	If item dropped
Item	**Cronbach's α**
S2	0.885
S5	0.880
S10	0.884
S12	0.896
S15	0.884
S20	0.885
S25	0.881
S29	0.883
S37	0.884
S21	0.885

Table 1.2 illustrates vital reliability statistics obtained from a frequentist analysis, encompassing both the scale and individual item evaluations. In terms of the scale reliability statistics, Cronbach's α demonstrates a robust internal consistency, yielding a

point estimate of 0.895, categorized as 'GOOD,' with a 95% confidence interval between 0.883 and 0.906. Additionally, the individual item reliability statistics showcase Cronbach's α values if each respective item were to be excluded from the scale. These values, ranging from 0.880 to 0.896, affirm the strong internal consistency of the inventory. Notably, the removal of any particular statement does not significantly impair the overall reliability, so confirming the instrument's reliability and consistency in evaluating parents' emotional manifestation of stress.

It's important to note that these calculations include assessments of sample statements from the instrument, such as Statement 2 "I feel that I have too much responsibility", Statement 15 "I feel that I carry other people's problems", and Statement 29 "I feel exhausted when deadlines are piled up". The inclusion of these statements illustrates the range of concerns addressed by the instrument as problems, workload, and the demand to perform their responsibilities add to their stress (Leitch et al., 2019). Moreover, it reinforces its comprehensive nature.

Table 1.3 ***Behavioral Manifestation Statements Reliability Statistics (Cronbach Alpha)***

Frequentist Scale Reliability Statistics	
Estimate	**Cronbach's α**
Point estimate	0.919
95% CI lower bound	0.910
95% CI upper bound	0.927

Frequentist Individual Item Reliability Statistics	
	If item dropped
Item	**Cronbach's α**
S11	0.912
S13	0.915
S14	0.910
S17	0.912
S19	0.912
S22	0.914
S23	0.921
S24	0.911
S27	0.913
S28	0.912
S31	0.916
S33	0.913
S35	0.911
S36	0.911

Table 1.3 shows the key reliability metrics from a frequentist analysis which include scale and item-level inventory evaluations. With respect to the reliability statistics of the scale, Cronbach's α indicates an exceptional degree of internal consistency, with a point estimate of 0.919, classified as 'Excellent,' and a 95% confidence interval spanning from 0.910 to 0.927. Additionally, the Cronbach's α values for each individual item on the scale would be displayed in the individual item dependability data. The assessment tool's remarkable internal consistency and dependability are further confirmed by these numbers, which constantly fall between 0.910 and 0.921. Remarkably, the absence of any specific item does not considerably impair the overall reliability, highlighting the strength and consistency of the inventory in evaluating the behavioral manifestation of stress among parents.

Incorporating an examination of specific sample statements from the instrument, such as Statement 13 "I handle most things alone with little support from my family and/or friends", Statement 27 "I tend to lash out (yell/shout at) people when my tasks are overwhelming", and Statement 35 "I commit more mistakes when tasks are overwhelming", enriches our understanding of the inventory's scope. These statements are illustrative of the diverse concerns and stressors the instrument seeks to capture, underscoring its comprehensiveness in evaluating the behavioral manifestations of stress among parents.

Table 1.4 ***Physiological Manifestation Statements Reliability Statistics (Cronbach Alpha)***

Frequentist Scale Reliability Statistics	
Estimate	**Cronbach's α**
Point estimate	0.709
95% CI lower bound	0.662
95% CI upper bound	0.750

Note: Of the observations, pairwise complete cases were used.

In Table 1.4, we have information about how reliable the statements are in showing physiological manifestations, based on the Cronbach's alpha scale. In this case, the point estimate is 0.709, marked as 'Acceptable' which means these statements together are somewhat consistent in measuring the physiological reactions. Overall, these statements show an acceptable level of consistency in assessing the physiological manifestation of stress in parents.

The two items of this domain are: Statement 30 "I experience cold flashes/sweating/increased heart rate when questioned about unfinished tasks" and Statement 32 "When tasks are piled up, I can feel my head aches”, which are some indicators of stress found in some studies (Zamkah et al., 2020).

DISCUSSION

The data presented across Tables 1.1, 1.2, 1.3, and 1.4 offer a detailed insight into the reliability of a stress inventory aimed at measuring various manifestations of stress among parents. The Cronbach's alpha values reported in Tables 1.1 (0.915), 1.2 (0.895), and 1.3 (0.919) for cognitive, emotional, and behavioral stress manifestations, respectively, demonstrate an exceptional degree of internal consistency. These values, well within the excellent to good range, underscore the inventory's capability to provide reliable assessments across these dimensions of parental stress. Notably, the stability of these values, even with the hypothetical removal of individual items, attests to the careful construction of the inventory, ensuring that no single item disproportionately affects the overall reliability.

The high reliability indices suggest that the inventory can serve as a robust tool in both clinical and research settings, facilitating the nuanced assessment of stress's cognitive, emotional, and behavioral impacts on parents. This precision allows for targeted interventions and supports the development of tailored strategies to address specific stress facets effectively.

However, Table 1.4 reveals a slightly different scenario for the physiological manifestation of stress, with a Cronbach's alpha of 0.709. While this value is deemed 'Acceptable' and indicates a reasonable level of internal consistency, it falls short of the higher reliability marks seen in the other domains. This discrepancy highlights a potential area for refinement within the inventory, suggesting that the physiological stress items may require further development or revision to achieve the same level of reliability as the other sections. This could involve adding new items, revising existing ones, or conducting additional research to better capture the physiological responses associated with parental stress.

Overall, the findings across these tables collectively affirm the stress inventory's utility in capturing a comprehensive picture of parental stress. Yet, they also signal the need for continuous improvement, particularly in the physiological domain, to enhance the tool's effectiveness in all stress manifestations. This holistic approach to measuring parental stress not only facilitates a deeper understanding of its multifaceted nature but also paves the way for more effective interventions tailored to the specific needs of parents.

Conclusions

The study underscores the robustness and applicability of the developed inventory in comprehensively evaluating and assessing the level of stress among parents. The reliability analysis, indicated by Cronbach's α, revealed consistently high internal consistency across different domains, signifying the reliability of this tool in measuring cognitive, emotional, behavioral, and physiological manifestations of stress. Moreover, the observed stability of the scale and minimal impact on reliability when individual items were dropped further supports its integrity and usefulness in evaluating the

manifestations. This tool exhibits promising potential for both research and clinical applications, offering a reliable, comprehensive, and internally consistent means to evaluate diverse manifestations of stress. Its multifaceted nature aligns with the growing recognition of the need for a dimensional approach, which could greatly contribute to more nuanced understandings of various psychological conditions and inform tailored intervention strategies.

Recommendations

Based on the findings and strengths of the study on the development and validation of a stress inventory for parents, the following recommendations are made:

1. Researchers are encouraged to use this inventory to delve deeper into the complexities of parental stress. Given its reliability and thorough coverage, it serves as an excellent resource for investigating how stress varies among different parenting scenarios.
2. Healthcare providers such as psychologists, counselors, and social workers assisting parents should utilize this inventory for assessing needs and crafting intervention plans. Its capability to pinpoint distinct areas of stress enables the development of customized support and therapeutic strategies.
3. While the inventory has shown reliability, further validation studies should be conducted across diverse cultural and socio-economic groups to ensure its applicability and sensitivity to different parenting experiences globally.
4. Training programs for healthcare providers, educators, and social service professionals should include the use of this inventory to enhance their understanding of parental stress and improve support services for families.
5. Policymakers in the community and program developers should utilize insights from the inventory to design and implement support systems, policies, and programs aimed at reducing parental stress and promoting family well-being.

Compliance with Ethical Standards

All applicable institutional guidelines where the study was conducted were followed. The participants were informed of their freedom to answer the survey instrument. All who had submitted their answers had written informed consent.

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STRESS, ANXIETY, AND DEPRESSION AMONG PARENTS IN CEBU

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ABSTRACT

Stress, anxiety, and depression can affect anyone and manifest through mental, emotional, physical, behavioral, or physiological symptoms. There are instances where the manifestations may worsen the levels of the conditions. Current research focuses mostly on parents' experiences in relation to having children with certain needs, illnesses, or as aftereffects of the COVID-19 pandemic. This study focuses on stress, anxiety, and depression among parents of enrolled students from two universities, labeled as HEI 1 and HEI 2, with a total number of 697 participants. Researcher-made instruments were produced that had a 4-point Likert scale for measurement, with stress and depression having 37 statements and anxiety having 36 statements. All statements focused on the different levels of the three, namely none, low, moderate, and high; and the manifestations they observed in themselves within the past two weeks (fourteen days) upon answering. All results from both universities were tallied as one large population to find the frequency and percentage per statement and points in the scale. Based on the collected data, the participants experienced manifestations at different levels. The majority showed no signs of stress, anxiety, or depression. However, there were parents who reported low to high levels of the three conditions, which were manifested cognitively, emotionally, behaviorally, and physiologically. There were manifestations that were common across the different levels, indicating that despite the level of condition they were in, they still experienced them.

Keywords: *stress, anxiety, depression, parents, Cebu*

INTRODUCTION

Hans Selye coined stress in 1956. He defined it as the non-specific response of the body to a demand, which entails that it is a reaction to the body's response to any change, threat, or pressure put upon it, from outside forces or from within, that may eventually protect the body from potential harm. The American Psychological Association (APA) (2018) describes stress as a normal reaction to everyday pressures that can become unhealthy when it upsets a person's day-to-day functioning. The World Health Organization (WHO, 2023) also defines stress as a state of worry or mental tension caused by a problematic situation. Lovin et al. (2022) found that stress has a detrimental influence, leading to frustration and increased difficulty in managing situations. In today's environment, stress has become a worldwide phenomenon that manifests itself in a variety of ways.

Parents in today's generation are generally working longer hours, as increased levels of responsibility demand them to strain themselves even more rigorously to fulfill rising performance standards. Parental stress occurs when a parent's perceptions of the demands of parenting outweigh their ability to deal with them (Leitch et al., 2019). While all experience stress from time to time, prolonged or chronic stress can have a negative impact on one's mental health, impair daily functioning, and emotional equilibrium. When it becomes chronic, it increases the chances of developing anxiety and depression (Agyapong et al., 2022)

The National Institute of Mental Health (2015) stresses out that anxiety is one's body's response to stress, and it can occur even when there is no immediate threat. This is characterized by a chronic and excessive sense of tense, fear, or unease about future events or situations, which is frequently accompanied by physical and emotional symptoms. Individuals suffering with anxiety may find it difficult to manage their worrisome thoughts, which can lead to a sense of being overwhelmed and out of control.

Parents may feel stressed out and anxious for a variety of reasons, as the role of parent comes with a plethora of obstacles and duties. The magnitude of parenting obligations can be overwhelming. As can be observed, raising and nurturing a child requires a constant juggling act of work, housework, and childcare, leaving parents with little time for themselves. Financial challenges add to the stress, as providing for a family and maintaining a stable environment necessitates significant resources. Furthermore, parents frequently make personal sacrifices by putting their own needs and interests on hold to prioritize their children's welfare. This selflessness can result in feelings of anger, resentment, or loss of identity, which can contribute to mental health issues like depression.

Depression is a major mental illness that has a significant impact on an individual's quality of life. Although the etiologies of this condition are unknown, growing attention has been focused on the influence of psychological stress on depression (Yang et al., 2015).

Given the unique challenges of the parenting role, marked by emotional highs and lows, parents are particularly susceptible to mental health issues. This

underscores the necessity of conducting research into the stress, anxiety, and depression experienced by parents, to thoroughly comprehend the nuances of parental mental health, identify effective support mechanisms, and ultimately improve the well-being of both parents and their children.

Research Questions

The study aimed to determine the stress, anxiety, and depression of parents in Cebu through answering the following questions:

1. What are the levels of stress, anxiety, and depression of parents?
2. What are the common manifestations of stress of parents in terms of:
   2.1. cognitive,
   2.2. emotional,
   2.3. behavioral, and
   2.4. physiological?
3. What are the common manifestations of anxiety in parents in terms of:
   3.1. cognitive,
   3.2. emotional,
   3.3. behavioral, and
   3.4. physiological?
4. What are the common manifestations of depression in parents in terms of:
   4.1. cognitive,
   4.2. emotional, and
   4.3. behavioral?
5. Is there a significant relationship between:
   5.1. stress and anxiety?
   5.2. stress and depression? and
   5.3. anxiety and depression?

METHODOLOGY

Participants

The participants of this study were the parents of the enrolled students in HEI 1 and HEI 2. It was conducted on the day the respective institutions held a parents' workshop on mental health. The workshop was facilitated by a Registered Psychologist and was assisted by guidance counselors, principals, teachers, psychometricians, and psychology interns.

Instrument

The researcher curated her own questionnaire that contained statements showing common manifestations or effects of stress, anxiety, and depression. Each variable had its own questionnaire, with stress and depression having thirty-seven (37) statements and anxiety having thirty-six (36). It also used a 4-point Likert scale, using 0–4, for its measurement.

Procedure

The researcher prepared questionnaires to identify the level of stress, anxiety, and depression of the research participants. An informed consent form was stated at the bottom page of each instrument for the research participants to sign should they agree to participate in the research conducted. An appointment was set with the guidance counselors of the first institution where the study was conducted, to be referred as HEI 1, and with the principals of elementary and junior high school departments of the second institution labeled as HEI 2. The questionnaires were given to each department for review and reproduction.

Before the start of the workshop, a one-hour ushering-in activity was done, where participants were given the instruments and instructions. Guidance counselors, teachers, and psychology interns were strategically situated in the venue to assist at least 5-7 parents, making sure that someone would answer their questions or clarifications. Once the questionnaires were given to them, the consent forms were cut off and gathered, but they were placed separately to further keep the answers random and confidential.

All the questionnaires were then collated into one population. Each statement of every variable and its corresponding answers were then tallied to produce their frequency and percentage in the population. The researcher then clustered the statements into tables that showed similarities in nature and labeled it with its respective theme.

Statistical Treatment

The data gathered was used to check the levels of stress, anxiety, and depression in parents. In order to interpret it correctly, descriptive statistics was used. The percentage was calculated using the following formula:

$$Percentage\ \% = \frac{f}{N} x100\%$$

Where:

% = Percentage
f = Frequency
N = Total number of participants

Furthermore, relationships between the Stress, Anxiety and Depression level of parents were obtained using the Chi-Square test of Independence. Chi square value χ2 is computed as:

$$x^2 = \sum \frac{(f_o - f_E)^2}{f_E}$$

Where:

f_o = observed frequency
f_E = expected frequency

RESULTS

This section presents the tabulated format of the gathered data from the three variables: stress, anxiety, and depression. The first table in every area shows the collected answers with its percentage for the four different levels: none, low, moderate, and high. The results of this study were then grouped according to the variable to which the statement was assigned. There were some statements that were clustered into groups as they showed a similar nature, such as their effects or type of manifestation. They were tabulated with the corresponding statement and per point in the scale, showing their frequency and percentage.

The statements presented in the table are those that were included in the top three most common manifestations for those who experienced low, moderate, and high levels of the variables. It was further filtered by only showcasing the statement(s) that were present in all three levels. However, due to the emotional manifestations of stress having no shared statements between the three levels, the three most common answers for each level are presented.

At the end of the last variable, the contingency tables that follow show the correlation between the three variables. The testing of its significance was also done and explained.

Stress

Table 1. Level of Stress

LEVEL OF STRESS	Observed	Percentage
NO STRESS	350	53%
LOW STRESS	216	32.7%
MODERATE STRESS	54	8.2%
HIGH STRESS	41	6.2%

The tabulated result shows that among the parents, the majority, constituting 53%, reported experiencing no stress, while 32.7% indicated low levels of stress. This suggests that a significant portion of parents perceive their stress levels as manageable or minimal. However, it's crucial to acknowledge the smaller yet still significant percentages reporting moderate (8.2%) and high (6.2%) levels of stress.

Table 2. *Cognitive Manifestations of Stress*

Statements	No		Low		Moderate		High	
	f	%	f	%	f	%	f	%
My income is not enough to buy the things my family and I need.	240	34.43	240	34.43	103	14.78	108	15.49

The most common manifestation that was evident in the low, moderate, and high levels was the statement, "*My income is not enough to buy the things my family and I need.*" It garnered 240 (34.43%), 103 (14.78%), and 108 (15.49%) answers, respectively. It ranked third in both the low and moderate levels of stress, while it ranked first in the high levels of stress.

Table 3. *Emotional Manifestations of Stress*

Statements	No		Low		Moderate		High	
	f	%	f	%	f	%	f	%
I feel that I have too much responsibility.	245	35.15	250	35.87			89	12.77
I feel that there are too many people I need to satisfy.	307	44.05			107	15.35		
I feel that people have high expectations of me.	264	37.88			116	16.64	78	11.19
I do not have enough time for leisure or my personal needs.	266	38.16	262	37.59	105	15.06		
I easily get irritated over small matters.	306	43.90	241	34.58				

I feel exhausted when deadlines are piled up	267	38.31			105	15.06		
I feel like crying when responsibilities are too heavy to bear	303	43.47					79	11.33

Stress can have a significant impact on a parent's mental health, resulting in a number of apparent changes in mood. This explains the results presented in Table 3. There were a large number who never considered the manifestations stated above to be emotionally stressful, however there were still those who did.

For those who experienced low levels of stress, the three common manifestation of stress are *"I do not have enough time for leisure or my personal needs"* (f = 262; 37.59%), *"I feel that I have too much responsibility*" (f = 250; 35.87%), and *"I easily get irritated over small matters*" (f = 241; 34.58%). In the moderate level, they saw the expectations placed on them as the top stressor of the majority who answered such, with an f = 116 (16.64%), with *"I feel that there are too many people I need to satisfy*" (f = 107; 15.35%) and *"I do not have enough time for leisure or my personal needs"* (f = 105; 15.06%) following it. To those who answered high levels of stress, the top three common manifestations were *"I feel that I have too much responsibility"* (f= 89; 12.77%), *"I feel that people have high expectations of me"* (f= 78; 11.19%), and *"I feel like crying when responsibilities are too heavy to bear"* (f = 79; 11.33%).

Table 4. *Behavioral Manifestations of Stress*

Statements	**No**		**Low**		**Moderate**		**High**	
	f	**%**	**f**	**%**	**f**	**%**	**f**	**%**
I am irritated around messy/disorganized environment.	201	28.84	264	37.88	114	16.36	110	15.78
I am easily irritated with loud noise.	253	36.30	251	36.01	114	16.36	66	9.47

Among the different statements, *"I am irritated around a messy/disorganized environment*" and *"I am easily irritated with loud noise"* were found to be among the top three most common answers in all three levels.

The statement *"I am irritated around a messy/disorganized environment*" ranked second for those with low levels of stress, with a frequency of 264 (37.88%).

For those with moderate and high levels of stress, it ranked first, having 114 (16.36%) and 110 (15.78%) answers, respectively. For the statement *"I am easily irritated with loud noise"*, it placed third for both low (f = 251; 36.01%) and high (f = 66; 9.47%) levels of stress, while also taking the first rank for moderate levels of stress. It garnered 114 (16.36%) answers as well.

Table 5. *Physiological Manifestations of Stress*

Statements	No		Low		Moderate		High	
	f	%	f	%	f	%	f	%
I experience cold flashes/ sweating/ increased heart rate when questioned about unfinished tasks.	357	51.22	206	29.65	80	11.48	44	6.31
When tasks are piled up, I can feel my head aches.	253	36.30	275	39.45	89	12.77	65	9.33

In table 5, there were a number of parents who felt no levels of physiological stress, but there were still those who felt low to high levels of it. The parents who answered low, moderate, and high levels of stress all found headaches to be a common manifestation garnering answers of 275 (39.45%) for low levels, 89 (12.77%) moderate levels, and 65 (9.33%) for high levels. Additionally, other physiological changes such as cold flashes/sweating/increased heart rate when asked about their unfinished tasks were evident; low levels had a number of 206 (29.65%), moderate levels had 80 (11.48%), and high levels had 44 (6.31%).

ANXIETY

Table 6. Levels of Anxiety

LEVEL OF ANXIETY	Observed	Percentage
NO ANXIETY	395	59.8%
LOW ANXIETY	195	29.5%
MODERATE ANXIETY	50	7.6%
HIGH ANXIETY	21	3.2%

The tabulated results provide insight into the levels of anxiety experienced by the parents. It's encouraging to note that a significant majority, comprising 59.8% of respondents, reported experiencing no anxiety. Additionally, 29.5% indicated low

levels of anxiety. This suggests that a substantial portion of parents perceive their anxiety levels as manageable or minimal, which could reflect a generally positive mental well-being. However, it's essential to address the smaller yet notable percentages reporting moderate (7.6%) and high (3.2%) levels of anxiety.

Table 7. *Cognitive Manifestations of Anxiety*

Statements	No		Low		Moderate		High	
	f	%	f	%	f	%	f	%
Cannot put disappointments out of my mind	259	37.16	205	29.41	74	10.62	39	5.60
Cannot stop overthinking	221	31.71	230	33.00	74	10.62	60	8.61

In table 7, there were those who felt no levels of anxiety, but those who answered low to high levels should be noted. For the parents who felt low, moderate, and high levels of anxiety, they all answered on their inability to stop overthinking, as the most common reason why they experienced such levels, which collected 230 (33%), 74 (10.62%), and 60 (8.61%) answers, respectively. There was also a tie between the statements *"cannot stop overthinking"* and *"cannot put disappointments out of my mind*" for those who answered moderate levels of anxiety. The statement *"cannot put disappointments out of my mind*" also placed third for low level (f = 205; 29.41%) and second for high levels (f = 39; 5.60%).

Table 8. *Emotional Manifestations of Anxiety*

Statements	No		Low		Moderate		High	
	f	%	f	%	f	%	f	%
Feeling constantly worried nd afraid about what might appen	263	37.73	212	30.42	68	9.76	42	6.03

In Table 8, it shows that there were parents who felt no levels of anxiety at all. For those who experienced low and moderate levels, the statement *"feeling constantly worried and afraid about what might happen*" was a common emotional reaction, garnering 212 (30.42%) and 68 (9.76%) answers, respectively, and it being the second most common for the high level with 42 answers (6.03%).

Table 9. *Behavioral Manifestations of Anxiety*

Statements	No		Low		Moderate		High	
	f	%	f	%	f	%	f	%
Easily annoyed or irritated	244	35.01	226	32.42	76	10.90	34	4.88

The statement *"easily annoyed or irritated"* ranked the highest for low levels (f = 226; 32.42%) and moderate levels (f = 76; 10.90%) and second for high levels (f = 34; 4.88%). This statement was seen in all three levels since parents' irritability is apparently a common manifestation.

Table 10. *Physiological Manifestations of Anxiety*

Statements	No		Low		Moderate		High	
	f	%	f	%	f	%	f	%
Experienced hot and/or cold sweats	325	46.63	181	25.97	59	8.46	19	2.73

Table 10 presents the parents' physiological manifestations of anxiety. There were those who experienced none of them since they felt no levels of anxiety, while the others felt different levels and experienced different manifestations or effects. It was the statement "*experienced hot and/or cold sweats"* that was present in all three levels as it ranked second for low (f = 181; 25.97%), first for moderate (f = 59; 8.46%), and third for high (f = 19; 2.73%) levels.

DEPRESSION

Table 11. Levels of Depression

LEVEL OF DEPRESSION	Observed	Percentage
NO DEPRESSION	462	69.9%
LOW DEPRESSION	145	21.9%
MODERATE DEPRESSION	34	5.1%
HIGH DEPRESSION	20	3%

The tabulated result presents the levels of depression experienced by parents. It's reassuring to see that the vast majority, accounting for 69.9% of the participants,

reported experiencing no depression, while 21.9% indicated low levels of depression. These findings suggest that a significant portion of parents perceive their mental well-being to be relatively stable. However, it is important to note the smaller percentages reporting moderate (5.1%) and high (3%) levels of depression.

Table 12. *Cognitive Manifestations of Depression*

Statements	No		Low		Moderate		High	
	f	%	f	%	f	%	f	%
Negative thoughts kept haunting me especially when I'm alone or at night.	369	52.94	217	31.13	58	8.32	42	6.03

The table reveals that while a significant portion of parents, presented in Table 11, showed no signs of depression, there were individuals experiencing varying levels of it—low, moderate, and high. Specifically, the statement "Negative thoughts kept haunting me especially when I'm alone or at night" consistently ranked among the top manifestations across all three levels: second in the low levels (f = 217; 31.13%), third in moderate (f = 58; 8.32%), and first in high levels (f = 42; 6.03%).

Table 13. *Emotional Manifestations of Depression*

Statements	No		Low		Moderate		High	
	f	%	f	%	f	%	f	%
I feel disappointed of my past actions.	284	40.75	261	37.45	77	11.05	64	9.18
I am sensitive to other people's comments about me.	349	50.07	216	30.99	74	10.62	43	6.17

There are two statements that are common in the three levels of depression. The first was "*I feel disappointed by my past actions",* which ranked first in all levels having 261 (37.45%), 77 (11.05%), and 64 (9.18%) answers, respectively. The next statement was *"I am sensitive to other people's comments about me*". It ranked second in the low (f = 216; 30.99%) and moderate (f = 74; 10.62%) levels, while it ranked third for the high levels (f = 43; 6.17%).

Table 14. *Behavioral Manifestations of Depression*

Statements	No		Low		Moderate		High	
	f	%	f	%	f	%	f	%
I feel tired most of the time.	297	42.61	252	36.15	73	10.47	60	8.61
I have days when I don't have the energy to get up from bed.	262	37.59	296	42.47	90	12.91	39	5.60

There were those who felt no level of depression, thus not showing any of the manifestations. For those who felt low, moderate, and high depression levels, they all had statements *"I feel tired most of the time"* and *"I have days when I don't have the energy to get up from bed*" among their top ranked answers.

The statement "I feel tired most of the time" was third in the low (f = 252; 36.15%) level, second in moderate (f = 73; 10.47%), and first with 60 answers (8.61%) in the high level. The statement *"I have days when I don't have the energy to get up from bed"* was the highest for both low and moderate levels, with 296 (42.47%) and 90 (12.91%) responses accordingly, while it ranked third for high levels with 39 (5.60%) answers.

Correlation

Table 15. Contingency Table for the Relationship of Stress and Anxiety Levels

LEVEL OF STRESS	LEVEL OF ANXIETY				
	NO ANXIETY	LOW ANXIETY	MODERATE ANXIETY	HIGH ANXIETY	TOTAL
NO STRESS	318	24	6	2	350
LOW STRESS	61	144	10	1	216
MODERATE STRESS	5	24	22	3	54
HIGH STRESS	11	3	12	15	41
TOTAL	395	195	50	21	661

The contingency table illustrates a significant relationship between the stress and anxiety levels of parents, as indicated by the p-value of less than 0.001. Notably, the data highlights varying patterns of stress and anxiety experiences among parents. Among parents experiencing high stress, 36.6% also reported high anxiety levels, while only 26.7% of parents with low stress reported high anxiety. Similarly, there's a notable difference in the distribution of anxiety levels among parents with different

stress levels. This suggests that higher stress levels may correspond to higher anxiety levels among parents.

Table 16. Contingency Table for the Relationship of Stress and Depression Levels

LEVEL OF STRESS	**LEVEL OF DEPRESSION**				
	NO DEPRESSION	LOW DEPRESSION	MODERATE DEPRESSION	HIGH DEPRESSION	TOTAL
NO STRESS	330	16	2	2	350
LOW STRESS	104	103	8	1	216
MODERATE STRESS	15	23	13	3	54
HIGH STRESS	13	3	11	14	41
TOTAL	462	145	34	20	661

Table 16 shows a significant relationship between the levels of stress and depression of parents supported by a p-value of less than 0.001. The data illustrates varying patterns of depression levels across different stress categories among parents. Among parents experiencing high stress, 34.1% reported high depression levels, compared to only 0.5% of parents with low stress. Similarly, there's a noticeable difference in the distribution of depression levels among parents with different stress levels. This suggests a strong association between stress and depression among parents, where higher stress levels correspond to higher levels of depression, and vice versa.

Table 17. Contingency Table for the Relationship of Anxiety and Depression Levels

LEVEL OF ANXIETY	**LEVEL OF DEPRESSION**				
	NO DEPRESSION	LOW DEPRESSION	MODERATE DEPRESSION	HIGH DEPRESSION	TOTAL
NO ANXIETY	372	21	0	2	395
LOW ANXIETY	77	106	10	2	195
MODERATE ANXIETY	9	17	21	3	50
HIGH ANXIETY	4	1	3	13	21
TOTAL	462	145	34	20	661

The contingency table provided indicates a significant relationship between the anxiety and depression levels of parents, supported by a p-value of less than 0.001. The data illustrates varying patterns of depression levels across different anxiety categories among parents. Among parents experiencing high anxiety, 61.9% reported high depression levels, compared to only 0.5% of parents with low anxiety. Similarly, there's a noticeable difference in the distribution of depression levels among parents with different anxiety levels.

DISCUSSION

This section discussed the implications of the results and their consistency with other literature.

The first table showed the observed data and its percentage for each level of stress. Its findings underscore the diverse experiences of stress among parents and emphasize the importance of prioritizing mental well-being within the family unit. It was then furthered into four different aspects of manifestation, namely cognitive, emotional, behavioral, and physiological.

The cognitive manifestations of stress were presented in Table 2. Only one statement was evidently among the top pressing issues for the parents, which often left them thinking and then led to feeling stressed. It was the statement, "*My income is not enough to buy the things my family and I need.*" This coincides with Mylenko's (2015) statement that financial reasons are a common reason for stress. The study of Islam et al. (2020) showed similar results, discussing that adults find economic hardships a mental stressor. The result also shows that even the slightest level of stress may present cognitive manifestations, but it was their financial status or struggles that became a burden that most of the participants found to be a common factor.

The results presented in Table 3 coincide with current literature. In this study, it was seen in those who felt low and moderate stress that their leisure time was affected, which is a similar finding to Siregar et al. (2021), who saw links between stress and the negative change in an individual's private life. With the participants being parents, it is expected that they have expectations and responsibilities to manage. As seen with the statement *"I feel that I have too much responsibility"* in the low and high levels, the statement "*I feel that people have high expectations of me*" in the moderate and high levels, and the statement *"I feel that there are too many people I need to satisfy*" in the moderate level, which may relate to the result on their roles to portray. There were also parents who scored in the low level who felt *"I easily get irritated over small matters"* while others scored high levels for the statement *"I feel like crying when responsibilities are too heavy to bear."* These findings are in consonance with the findings of Attia et al (2022) that if one is stressed out, one can also observe a rise in anger, mood fluctuations, agitation, irritability, loneliness, or anxious or depressed expressions. Stanborough's (2020) article also supports that crying, or even just the feeling of wanting to cry, may serve as a signal of distress.

When it comes to behaviors, stress can have a negative effect on these in noticeable ways. These behaviors are not seen in the parents who showed no levels of stress in Table 4 but may be evident in different ways for parents who felt low to high levels of stress. With the parents in the study, they found themselves to be more irritable when seeing a messy environment or with loud noises. This result coincided with the result of a study that found a significant relationship between stress and noise (Jensen et al., 2019). Bhui et al. 's (2016) findings also presented that working adults rather have themselves organized because seeing a messy work environment would make them worry and stressed. This suggests that the participants who reported feeling low to high levels of stress may have been going through these behavioral changes in which their reaction to their visual and auditory stressors became prevalent in all three levels, possibly impacting on their everyday performance.

In Table 5, the statement "*I experience cold flashes/ sweating/ increased heart rate when questioned about unfinished tasks*" suggests that tasks and obligations are a reason for stress, which can worsen when unfinished. The physiological manifestation of if, which is sweating, is supported by the study of Zamkah et al. (2020) who found that sweating is a part of the body's stress detection system. For the statement "*When tasks are piled up, I can feel my head aches"* being among the most common coincides with the findings that adults would experience aches, pains, and muscle strains. The presence of frequent headaches or migraines is also possible (Guevarra & Cimanes, 2017).

Looking at the results presented in Tables 2-5, despite going through different levels of stress, the parents manifest common symptoms or share the same triggers and stressors. The research findings highlight various cognitive, emotional, behavioral, and physiological symptoms of stress among parents. Financial concerns emerged as a predominant cognitive stressor across all levels, reflecting the burden of economic hardships on mental well-being. Emotional manifestations varied, with low stress levels associated with time constraints and feelings of excessive responsibility, while moderate and high levels were characterized by societal expectations and overwhelming responsibilities, often leading to emotional distress such as irritability and crying. Behavioral changes included heightened irritability in chaotic environments and sensitivity to loud noise, indicating potential disruptions in daily functioning. Physiological symptoms, such as headaches and physical discomfort related to unfinished tasks, were reported across all stress levels, suggesting a tangible impact on physical health. These findings underscore the multifaceted nature of stress and its pervasive effects on various aspects of parental well-being.

Similar to the first table, Table 6 presents the different levels that the parents of the study felt, but this time their anxiety levels. Further manifestations were then seen in the parents through their cognitive, emotional, behavioral, and physiological aspects. The first listed item was seen in Table 7. With the anxiety associated with having children, some people may believe that their disappointments are directed at themselves due to how they performed their roles or what transpired with their child (Gershoff et al., 2010). Hence, they manifest these cognitive symptoms of anxiety, in the statements *"cannot put disappointments out of my mind*" and "*cannot stop overthinking.*" However, it is also possible that those participants who feel no anxiety may still experience worrying and overthinking, as it is a normal occurrence in life

(National Institute of Mental Health, 2022). The main distinction, along with the other manifestations or triggers, is that it had no impact on how well they performed as parents in their day-to-day activities.

Such results were possible in Table 8 as parents' mental health can be significantly impacted by anxiety, which can result in a variety of apparent changes in their feelings. As one goes through bouts of anxiety and its symptoms, it heightens their worries and fears; hence, significantly impacting on their feeling and levels of anxiety (National Institute of Mental Health, 2022). For participants who felt such levels of anxiety, most likely they have also impaired their emotional-regulation and heightened negative emotions thus, experienced apparent changes in their feelings. Although, the results do not necessarily mean that those who reported no anxiety did not experience feelings of heightened worries. It can be inferred that they do not dwell on these emotions for too long, keeping their anxiety levels from rising.

As parents navigate their own demands and challenges, their anxiety may be manifested in their actions, as stated in Table 9. Although anxiety-related behavioral manifestations can vary widely from person to person, they are always accompanied by observable adjustments in behavior and perspective on situations. This rings true for the parents of the study, as there were those who experienced no levels of anxiety; and thus, did not manifest any of them; while there were those who felt low to high levels of anxiety. It was even found in other literature, with Savage et al. (2015) explaining that it can also be triggered by either genetic or environmental factors. Based on the results, it is evident that the parents' most common behavioral manifestation is irritability. However, those participants who scored no anxiety may still have displayed these behavioral changes, but they may have successfully regulated these behaviors or may not have connected these actions to anxiety.

The results in Table 10 are explained and supported in the study of Asmundson and Katz (2009), as they saw that anxiety levels may cause hormones to activate the sweat glands. Moreover, as the body tries to regulate its temperature, it frequently sweats, notably on the palms or underarms. Their finding and Folk's (2021) statement about body temperature fluctuating in times of anxiety support the results found.

In summary for the anxiety-related manifestations, the results presented in tables 7-10 show that parents often overthink and focus on the negative side of their experiences, thus making them weary and afraid, having to constantly worry about what could possibly happen. They fear that the worst may be the outcome of their situation which might make them a burden to others. These add to their anxiety levels and would lead them to being short-tempered or easily irritated, resulting in them to also experience sweating and palpitations.

As to the variable on depression, Table 11 presents the levels of the parents who answered the survey. It was Table 12 that showed the cognitive manifestations of it. The findings indicate that individuals experiencing depression tend to focus on negative experiences and struggle to see any positive qualities in themselves. This aligns with Berry's (2022) research, which suggests that negative self-perceptions are a common characteristic of depression, evident in the top-ranking statements across all three levels of depression. Such negative thought patterns, whether dwelling on

past events or anticipating future ones, can intensify depressive symptoms or contribute to the onset of depression (American Psychiatric Association, n.d.).

As parents go through their everyday struggles and activities, they may encounter triggers that may result in them feeling different levels of depression. For those who participated in the study, there were those who reported experiencing none of the emotional manifestations while there were those who reported feeling low to high depression levels in Table 13. The finding that *"I feel disappointed of my past actions*" ranked first across all levels of depression aligns with existing literature, which suggests that experiencing repeated disappointments or dwelling on them can contribute to depressive feelings (Gold & Kadriu, 2019; Sandage et al., 2017; Skodol et al., 2015). Pincus et al. (2014) also found that disappointments exacerbate depression levels and raise the risk of developing it further. The statement *"I am sensitive to other people's comments about me*", which is also a common manifestation in all three levels, can be supported by Grahek et al. 's (2019) finding that depression is found to be related to the impairment of cognitive and emotional processes. As a result, they may become more sensitive to the comments and opinions of others as they cannot process their emotions, and such comments may add to the negativity they are already feeling.

A variety of observable actions and routines are included in the behavioral manifestations of depression which some of those were present in the parents who participated in the study. Table 14 presents the behavioral manifestations associated with depression among participating parents. While some parents did not exhibit any signs of depression, others did, experiencing varying levels of it. Notably, regardless of the severity of depression, common behavioral indicators included frequently feeling tired and experiencing days where individuals lacked the energy to get out of bed. This relates to the findings of Corfield et al. (2016), who saw that people who are sad or exhibit this symptom are more likely to feel worn out, and to Fletcher's (2022), who saw the inability to get out of bed as being linked to fatigue and depression.

The manifestations of depression in parents presented in Tables 9–11 include constantly having negative thoughts, especially at night or when alone, though this still needs further study, especially the connection between depression and darkness. The manifestations of depression in this study are brought about by the negative thoughts that were connected to their self-perception and disappointments with their past actions. Due to the negativity that they already felt, they became very sensitive to other people's comments, whose levels ranged from low to high. Moreover, across the three levels, the behavioral manifestations of depression were most evident, such as being tired most of the time and having the inability or losing energy to get out of bed.

The last three tables were tables 15-17. They presented the significant relationships between stress and anxiety, stress and depression, and anxiety and depression, respectively. These results present the interconnectedness between them. The significant relationship between the three conditions, namely stress, anxiety, and depression, was also present in other literature. Adams et al.'s (2021) study on parents' stress levels, especially during the COVID-19 pandemic, significantly increased. In addition to their findings, it was presented that parents who had prolonged periods of high levels of stress may also have a greater chance of

developing higher levels of anxiety and depression. This was evident in this study's results, correlating the levels of stress between the other two factors and anxiety with depression.

Conclusions

There is a significant proportion of parents who did not exhibit indications of stress, anxiety, or depression. Nevertheless, there were parents who reported experiencing varying degrees of these conditions, with manifestations evident across cognitive, emotional, behavioral, and physiological domains. Notably, certain manifestations were consistently observed across different levels of severity, suggesting that individuals could experience these symptoms regardless of the specific level of stress, anxiety, or depression they were experiencing. Moreover, it was evident that there was a significant relationship between stress and anxiety, stress and depression, and anxiety and depression.

Recommendations

Based on the results found in the study, the following are recommended:

1. Another research will be conducted to parents of which each questionnaire will be given in a separate schedule.
2. Use the result of the study in school, church, or local community in creating intervention programs for parents who may have experienced symptoms of stress, anxiety, and depression.
3. Utilize this output as a tool to educate children in understanding the mental health of the parents.
4. Use the results as a reference to understand themselves and how the variables in the study may have affected them, their family, and their activities. Thus, allowing them to potentially grasp the idea of reaching out for help should they find the need to do so.
5. The results of this study can also be used as a reference for future researchers should they conduct a similar study but in a different setting.

Compliance with Ethical Standards

All applicable institutional guidelines where the study was conducted were followed. The participants were informed of their freedom to answer the surveys. All who had submitted their answers had written informed consent.

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CHALLENGES ENCOUNTERED AND COPING STRATEGIES APPLIED BY THE STAKEHOLDERS IN THE IMPLEMENTATION OF FACE-TO-FACE CLASSES AFTER THE PANDEMIC

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ABSTRACT

This study aimed to investigate the challenges encountered and coping strategies applied by internal and external stakeholders during the implementation of face-to-face classes after a pandemic. Employing a quantitative-descriptive design, the research relied on a survey questionnaire as its primary data collection tool. Participants encompassed both internal stakeholders (comprising learners, teachers, and school personnel) and external stakeholders (including parents or guardian, local government officials (LGU), and barangay officials) from Atimonan Districts I and II, selected through random sampling. The study's primary objectives included identifying the challenges confronted during the reintroduction of in-person classes and understanding the coping strategies employed by stakeholders. Additionally, it sought to assess whether significant differences existed in the challenges and coping strategies applied by internal and external stakeholders within Atimonan Districts. The study revealed that the challenges encountered by the internal stakeholders include concerns about health and safety, adapting to new protocols, and managing classroom dynamics. In contrast, external stakeholders faced difficulties related to resource allocation, effective communication, and garnering community support for the reopening of schools. Meanwhile, Internal stakeholders devised coping strategies such as rigorous training in health and safety protocols, collaborative lesson planning, and adjusting teaching methods to accommodate new classroom dynamics. External stakeholders employed strategies like mobilizing resources, establishing efficient communication channels, and fostering

community involvement to address the identified challenges. The study uncovered significant differences in the challenges applied by internal and external stakeholders in implementing in-person classes, suggesting that the nature of challenges varied between these two groups. However, no significant differences were found in the coping strategies employed by both internal and external stakeholders, indicating a level of alignment in their approaches to overcome challenges. Based on these findings, several recommendations emerge develop comprehensive plans that prioritize safety and well-being while considering various scenarios. Invest in professional development for teachers to enhance their skills in blended learning and technology integration. Involve teachers, parents, and students in decision-making processes to ensure inclusiveness. Prioritize the health and safety of students and staff by adhering to recommended protocols. Be flexible in teaching methods to address varying student needs. Identify and address learning gaps that may have arise during remote learning. Maintain open communication with teachers and school administrators to address concerns and provide support for their learners. Offer emotional support to help learners navigate the challenges of returning to face-to-face classes. Conduct further research to analyze the short-term and long-term effects of the pandemic on education systems, learners, teachers, and parents. Identify best practices and areas for improvement in handling future crises in education.

Keywords: *Challenges Encountered, Internal Stakeholders, External Stakeholders, Coping Strategies, Learning Recovery and Continuity Plan*

INTRODUCTION

Face-to-face Education is the most conventional kind of Education. It is the most popular instructional approach in which learning materials are presented in person, one-on-one, or, more typically, to a group of students in a closed classroom (Fernandez-Guzman et al., 2020). They allow the students to exercise and converse with ease. The face-to-face class offers benefits that modules and online Education cannot match.

Before the Pandemic, face-to-face classes represent the daily life of teachers and students going through different curricular subjects. The typical class flow starts without restrictions, and the students are free to have collaborative activities that encourage ICT integration but are mostly offline. They enjoy learning freely without the risk of having infected by a virus. Then the Pandemic arrived. The COVID-19 epidemic has caused enormous economic, social, and political concerns. In addition to a health catastrophe, it has also caused an educational crisis and lockdown. Hence, on February 9, 2020, the Department of Health (DOH) provided an evidence-based independent technical assessment on the COVID-19-related class suspension, which started the nationwide history of class suspensions and lockdown with the support of the 10th Inter-Agency Task Force. Likewise, DepEd (2020) worked on adopting the Basic Education Learning Continuity Plan for School Year 2020-2021 considering the COVID-19 Public Health Emergency through D.O. No. 12, s. 2020 uses alternative learning modalities besides face-to-face teaching, including modular distance learning, television and radio learning,

and online and blended learning modalities. Then upon the observed decreasing risk of the Corona Virus and the near 100% core immunity, DepEd seized the opportunity to reopen class with limited face-to-face modalities contained in DepEd Order No. 34, s—2022, which was Duterte's first order as education chief. The order also stated that the school year 2022 – 2023 will be on August 22 and end on July 7, 2023. Nonetheless, catastrophes and pandemics cause significant challenges and changes in educational delivery, resources, and the environment. There is evidence that the probability of pandemics has grown over the last century due to increasing global travel and integration, urbanization, changes in land use, and higher exploitation of the natural environment (Madhav et al., 2022) Such pandemics that the world experienced are the Black Death, Spanish Flue, and HIV/AIDS. According to Madhav et al. (2022), the tremendous diversity of viruses and their interactions with people drives the range of pandemic dangers. Hence, being resilient to pandemics should be one of the goals of the education sector, such as DepEd.

In addition, due to the COVID-19 pandemic, human interaction, system functioning, and resource allocation have changed. Education is compelled to utilize this new compass to navigate the world of teaching and learning while protecting the mental health of the learners (Tuccie et al., 2019) against fear or guilt Deaton (2018), deviant behavior (UNICEF, 2020) as well as family problems. Despite these evolving dynamics, meeting the educational needs of learners continues to be a priority; learners' rights to Education remain protected and non-negotiable. The ultimate objectives of Education remain the same, but the tools to achieve them must be revised and applied differently, such as the learning continuity and recovery plan (Sarmiento et al., 2021).

The situations above, setting, literature, and research testify to the necessity to examine the need to analyze the challenges encountered and coping strategies brought by implementing face-to-face lessons. No research has yet been undertaken to analyze the stakeholders' experiences conducting face-to-face teaching sessions and establish a resilient and reliable learning recovery and a continuity plan in the context of Atimonan I and II Districts in Quezon Province. This investigation was suggested.

Research Questions

This study aimed to determine the challenges encountered and coping strategies applied by internal and external stakeholders in implementing face-to-face classes after the pandemic.

Specifically, this aims to answer the following questions.

1. What are the challenges encountered by the internal and external stakeholders in the implementation of face-to-face classes after the pandemic in terms of:
    - 1.1. Managing School Operations
        - 1.1.1. Shared Responsibility;
        - 1.1.2. Work Arrangements;
        - 1.1.3. Classroom Layout and Structure;
        - 1.1.4. School Traffic Management;

1.1.5. Protective Measures, Hygiene Practices, and Safety Procedures;
1.1.6. Communication Strategy; and
1.1.7. Contingency Plan?
1.2. Focusing on Teaching and Learning
1.2.1 Learning Resources;
1.2.2 Face-to-Face Classes; and
1.2.3 Teacher's Support?
1.3 Well-being and Protection
1.3.1 School disinfection and Sanitation;
1.3.2 COVID-19 Case Management; and
1.3.3 Including the most Marginalized?
1.4 School-Community Coordination?

2. What are the coping strategies applied by the internal and external stakeholders to address the challenges encountered in the implementation of face-to-face classes after the pandemic in terms of:
2.1. Managing School Operations
2.1.1. Shared Responsibility;
2.1.2. Work Arrangements;
2.1.3. Classroom Layout and Structure:
2.1.4. School Traffic Management;
2.1.5. Protective Measures, Hygiene Practices, and Safety Procedures;
2.1.6. Communication Strategy; and
2.1.7. Contingency Plan?
2.2. Focusing on Teaching and Learning
2.2.1. Learning Resources;
2.2.2. Face-to-Face Classes; and
2.2.3. Teacher's Support?
2.3 Well-being and Protection
2.3.1 School disinfection and Sanitation;
2.3.2 COVID-19 Case Management; and
2.3.3 Including the most Marginalized
2.4. School-Community Coordination?
3. Is there a significant difference on the challenges encountered by the internal and external stakeholders in the implementation of face-to-face classes after the pandemic?
4. Is there a significant difference on the coping strategies applied by the internal and external stakeholders to address the challenges encountered in the implementation of face-to-face classes after the pandemic?
5. What School Learning Recovery and Continuity Plan can be prepared by the researcher based on the research results?

METHODOLOGY

This section presents the research design, the locale of the study, the population and sampling procedures, the research instruments utilized, procedures for gathering data, and the statistical treatment of data.

Research Design

The quantitative method was utilized in this study, employing the descriptive research design (Creswell, 2013). This design collected quantifiable data for the statistical analysis of a population sample. It was used to identify the participants' qualities, including their traits, behavior, and opinions. This information could be acquired through surveys sent to the respondents and the study subjects. Descriptive research was used to determine the underlying patterns of the study item. It also used a survey type questionnaire to identify the respondents' opinions on the challenges encountered and coping strategies applied to address the challenges encountered in implementing face-to-face classes after the pandemic, which were later statistically compared.

Research Locale

This study was conducted in the municipality of Atimonan in the province of Quezon. It was a first-class municipality with 64,260 residents, according to the 2020 census. It was located on the province's eastern shore, 42 kilometers (26 miles) from Lucena City and 172 kilometers (107 miles) from Manila. The towns of Gumaca, Plaridel, Pagbilao, and Padre Burgos surrounded Atimonan.

In the context of DepEd, Atimonan was divided into two (2) districts, the Atimonan 1 District with six (6) public secondary schools, while Atimonan II District has two (2) public secondary schools.

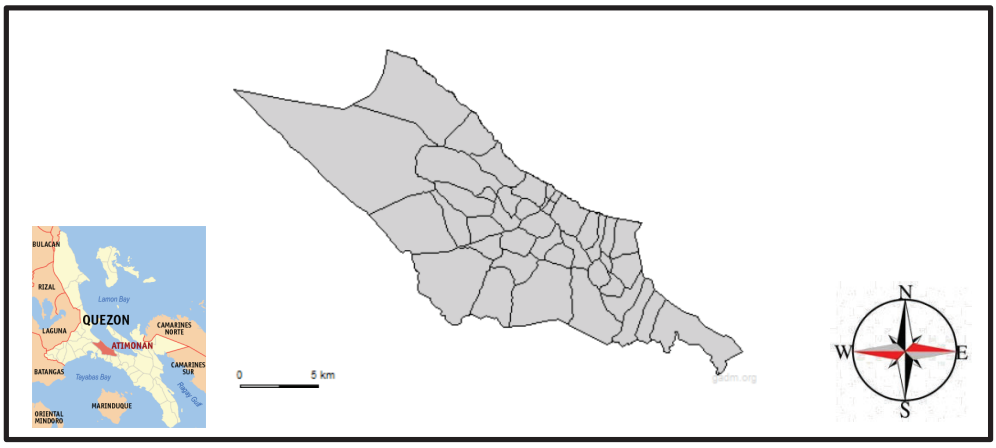


Figure 2. *Location Map of Atimonan, Quezon*

The locale was chosen as the place of the study because the researcher wanted to contribute her research findings to Atimonan I and II Districts, and this research could be used for future references in case of a similar pandemic. Second, this would greatly help her Schools Division in terms of quality instruction. Third, the researcher loved the students, parents, teachers, and school personnel of the Atimonan I and II Districts. It was her pride and honor that her research would be beneficial to all stakeholders, and that this research could contribute to her Division.

Research Population and Sample

There were 6660 total internal and external stakeholders, and the sample size calculator with a .05 margin of error was used to identify the number of sample respondents selected from the pool of stakeholders in Atimonan I and II Districts of DepEd Quezon.

Table 1. *Distribution of Respondents by School*

Districts/ Municipality	Number of Stakeholders			Total	Number of Externalnal Stakeholders			Total	Total No. Of Respondents
Atimonan I District	Student	Teacher	Personnel		Parent	LGU	Private Individual		
Atimonan National Comprehensive High School	30	18	12	60	20	3	3	26	86
Balubad Integrated School	10	14	6	30	8	2	2	12	42
Caridad Integrated School	9	8	5	22	10	2	2	14	36
Malusak Integrated National High School	5	5	5	15	11	3	2	16	31
San Rafael National High School	6	3	6	15	10	2	2	14	29
Villa Ibaba Integrated School	6	9	5	20	9	2	1	12	32
Atimonan II District									
Malinao Ilaya Integrated National High School	22	14	8	44	11	3	3	17	61
Maligaya Integrated National High School	10	15	10	35	10	2	2	14	49
Grand Total	**98**	**86**	**57**	**241**	**89**	**19**	**17**	**125**	**366**

The internal stakeholders were composed of 241 learners, teachers, and non-teaching personnel, while there were 125 external stakeholders participating in the study, consisting of selected parents and guardians, and local government units. Given the substantial number of both internal and external stakeholders in the municipality, purposive sampling procedures were used, and the respondents were selected based on their proactive involvement in the conduct of face-to-face classes in their respective and affiliated schools.

Research Instruments

A modified researcher-made checklist questionnaire was used to collect the necessary data. The basis for this instrument was D.O. No. 30 s. of 2022, outlining guidelines for implementing face-to-face classes in the country. The questionnaire was divided into three (3) parts.

Part I aimed to identify the stakeholders' roles as internal or external. Part II was used to identify the challenges encountered by internal and external stakeholders in implementing face-to-face classes, specifically in managing school operations, focusing on teaching and learning, well-being and protection, and school-community coordination. Part III focused on the coping strategies applied by the internal and external stakeholders in the implementation of face-to-face classes. Four (4) point scales were employed in the research instrument for the challenges encountered by internal and external stakeholders, where 4 represented the highest challenge, and 1 represented the lowest. The scale underwent validation to align with the objectives of the study. The scale values were 4 for Most Challenging, 3 for More Challenging, 2 for Moderately Challenging, and 1 for Less Challenging.

Similarly, four (4) point scales were used in the research instrument for the coping strategies applied by stakeholders, where 4 represented the highest, and 1 represented the lowest. The scale values were 4 for Most Applied, 3 for More Applied, 2 for Moderately Applied, and 1 for Less Applied.

The questionnaires underwent thorough validation with the assistance of master teachers, school heads, education program supervisors, and research experts. After incorporating the suggestions of the validators, the questionnaires were piloted for item analysis to finalize the research instrument. Subsequently, the facilitation followed.

Data Gathering Procedure

To fully achieve the research goals, the researcher drafted letters addressed to the validators of the research instrument, the schools' division superintendent, public school district supervisors, and school heads, seeking their permission to conduct the study. Additionally, a cover letter was included, outlining the purpose, value, and the necessity of responding to ensure the privacy and confidentiality of the information provided. A separate letter was sent to each participant from the chosen schools.

After confirming the SDS's approval, the researcher will commence contacting school administrators, instructors, and the local IATF regarding the study's conduct, including on-site data collection and the potential face-to-face administration of questionnaires to the selected respondents. The researcher aims to personally administer the questionnaires to ensure the veracity of the data.

Furthermore, respondents were informed about the research objectives and the components of the questionnaire. The researcher addressed any queries from the respondents to acquire a comprehensive understanding of the intent behind the inquiries.

Statistical Treatment of Data

The following statistical tools were employed to summarize, present, analyze, and interpret the collected data: quantitative methodology and frequency count, and T-test. Weighted mean was utilized to identify the challenges encountered by the internal and external stakeholders and coping strategies applied by the internal and external stakeholders to address the challenges encountered. This focus encompassed managing

school operations, focusing on teaching and learning, well-being and protection, and school-community coordination.

Finally, the T-test for independent samples applied to test hypotheses and ascertain if there is a significant difference between the challenges encountered and coping strategies applied by stakeholders in implementing face-to-face classes in the Atimonan Districts among internal and external stakeholders.

To assess the level of challenges encountered and coping strategies applied by respondents in the implementation of face-to-face classes after the pandemic, a Likert Scale was used to calculate the mean.

Likert Scale on the Challenges Encountered by the Internal and External Stakeholders

Point	Range	Verbal Interpretation	Description
4	3.26 - 4.00	Most Challenging **(MC)**	The challenges encountered is most challenging equivalent to 76% to 100%.
3	2.51 - 3.25	More Challenging **(MRC)**	The challenges encountered is more challenging equivalent to 51% to 75%.
2	1.76 – 2.50	Moderately Challenging **(MDC)**	The challenges encountered is moderately challenging equivalent to 26% to 50%.
1	1.00 – 1.75	Less Challenging **(LC)**	The challenges encountered is most challenging equivalent to 01% to 25%.

Likert Scale on the Coping Strategies Applied by the Internal and External Stakeholders

Point	Range	Verbal Interpretation	Description
4	3.26 - 4.00	Most Applied **(MA)**	The coping strategies is most applied equivalent to 76% to 100%.
3	2.51 - 3.25	More Applied **(MRA)**	The coping strategies is more applied equivalent to 51% to 75%.
2	1.76 – 2.50	Moderately Applied **(MDA)**	The coping strategies is moderately applied equivalent to 26% to 50%.
1	1.00 – 1.75	Less Applied **(LA)**	The coping strategies is less applied equivalent to 01% to 25%.

RESULTS AND DISCUSSION

Part I. Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic

Table 1.1.1

Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic in Managing School Operations in Terms of Shared Responsibility

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1.The school has no limited mobilization of resources and support from community stakeholders to meet the standards of the health and safety protocols.	2.97	More Challenging	2.90	More Challenging
2.The school did not conduct simulation activities among school personnel regarding protocols and routines to replicate and discuss possible scenarios during the actual conduct of face-to-face classes.	2.94	More Challenging	2.88	More Challenging
Grand Mean	**2.96**	**More Challenging**	**2.89**	**More Challenging**

Legend:
3.26 - 4.00 Most Challenging ***(MC)***
2.51 - 3.25 More Challenging ***(MRC)***
1.76 – 2.50 Moderately Challenging ***(MDC)***
1.00 – 1.75 Less Challenging ***(LC)***

Table 1.1.1 shows the perceptions of both internal and external stakeholders regarding the challenges encountered both internal and external stakeholders during the implementation of face-to-face classes after the pandemic in managing school operations in terms of shared responsibility.

The grand mean for both internal and external stakeholders is 2.96 and 2.89, respectively, indicating an overall perception of "More Challenging" conditions in implementing post-pandemic in-person classes. The standard deviations for both groups suggest moderate consistency in responses.

Indicator 1 reveals that internal stakeholders perceive challenges in mobilizing resources and support from community stakeholders to meet health and safety protocols, with a weighted mean score of 2.97. This implies that they find it challenging to secure the necessary resources and support from the community to ensure compliance with safety protocols during in-person classes.

Indicator 2 highlights that internal stakeholders perceive challenges because the school did not conduct simulation activities among school personnel regarding protocols

and routines. The weighted mean score is 2.94, indicating that internal stakeholders find the absence of preparatory simulation activities challenging in preparing for in-person classes.

External stakeholders, as indicated in Indicator 1, also find it challenging to mobilize resources and support from the community to meet health and safety protocols, with a weighted mean score of 2.90. This suggests that external stakeholders share a similar perception of limited support from the community in ensuring a safe learning environment.

Indicator 2 shows that external stakeholders perceive challenges because the school did not conduct simulation activities among school personnel, with a weighted mean score of 2.88. This implies that external stakeholders also find the absence of simulation activities challenging in preparing for the return to in-person classes.

Addressing the challenges related to shared responsibility in implementing post-pandemic in-person classes requires both internal and external stakeholders to collaborate. This involves proactive planning and community engagement to ensure a safe and successful return to in-person learning.

The successful reintroduction of in-person classes requires cooperation among internal and external parties through proactive planning and community involvement. Valdez (2020) emphasized the crucial role of management in ensuring accessible and well-maintained facilities and resources to enhance educational outcomes. Collaborating with stakeholders such as administrators, faculty, parents, local authorities, and healthcare professionals facilitates the development of comprehensive strategies for a safe return to classrooms. Continuous communication, resource management, and strategic planning are essential for addressing health protocols, classroom management, and academic support, fostering an environment conducive to learning and growth for all involved.

Table 1.1.2

Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic in Managing School Operations in Terms of Work Arrangements

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
3.There are no vaccinated teachers who will handle face-to-face classes in a safe learning environment to learners.	3.13	More Challenging	3.06	More Challenging
4. The school does not orient all its personnel on the work arrangement implemented during the face-to-face classes.	2.94	More Challenging	2.99	More Challenging
Grand Mean	**3.04**	**More Challenging**	**3.03**	**More Challenging**

Legend:
3.26 - 4.00 Most Challenging ***(MC)***
2.51 - 3.25 More Challenging ***(MRC)***
1.76 – 2.50 Moderately Challenging ***(MDC)***
1.00 – 1.75 Less Challenging ***(LC)***

The provided data focuses on the challenges encountered by both internal and external stakeholders in implementing face-to-face classes after the pandemic, specifically concerning work arrangements within school operations.

Both internal and external stakeholders have a grand weighted mean of around 3.04 and 3.03, respectively, indicating an overall perception of "More Challenging" conditions regarding
work arrangements in the implementation of post-pandemic in-person classes. The standard deviations for both groups suggest moderate consistency in responses.

Indicator 3 indicates that internal stakeholders perceive more challenges related to the availability of vaccinated teachers for face-to-face classes, with a weighted mean score of 3.13. This suggests that internal stakeholders find it challenging to ensure there are enough vaccinated teachers to handle in-person classes safely. Indicator 4 highlights that internal stakeholders perceive challenges in orienting all school personnel regarding the work arrangements during face-to-face classes, with a weighted mean score of 2.94. This implies that internal stakeholders find it challenging to ensure all staff members are well-informed about the work arrangements in place.

External stakeholders, as indicated in Indicator 3, also perceive challenges regarding the availability of vaccinated teachers, with a weighted mean score of 3.06. This implies that external stakeholders share similar concerns about the availability of vaccinated teachers to ensure a safe learning environment. Indicator 4 shows that external stakeholders perceive more challenges in the orientation of school personnel regarding work arrangements, with a weighted mean score of 2.99. This suggests that external stakeholders also find it challenging to ensure all school staff are adequately oriented regarding work arrangements.

Therefor, to address the challenges faced by external stakeholders in securing vaccinated teachers and training school staff on work arrangements underscore the necessity for collaboration between internal and external stakeholders to address issues related to post-pandemic in-person instruction. Similarly, Akpabio (2019) emphasizes the significance of the physical environment in achieving educational goals, highlighting the importance of promoting teacher immunization, improving staff orientation, and fostering teamwork to ensure a safe learning environment. Coordinating efforts between internal and external stakeholders aligns with the recommendation to conduct thorough facility assessments to support educational objectives, as advocated by Akpabio. Together, these challenges can be overcome by educational institutions to establish secure, welcoming classrooms that prioritize both human and physical aspects of learning, facilitating effective post-pandemic education delivery.

Table 1.1.3

Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic in Managing School Operations in Terms of Classroom Layout and Structure

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
5. There is no limited number of seats to be occupied for the required number of maximum learners in the classroom.	3.11	More Challenging	3.05	More Challenging
6. The seats to be occupied do not have at least l-2 meters apart.	3.03	More Challenging	2.81	More Challenging
7. The presence of markers and stickers on the floor to manage traffic system and physical distancing inside the classroom are not present.	2.91	More Challenging	2.98	More Challenging
8. In non-air-conditioned spaces, windows and doors are closed.	2.99	More Challenging	2.98	More Challenging
9. In air-conditioned spaces, there are no installed exhaust fans and HEPA filters guided by DOLE Department Order No.224-221 Guidelines on Ventilation for Workplaces and public Transport.	3.00	More Challenging	2.90	More Challenging
10. Regardless of the HVAC system, all classrooms have minimal number to no working electric fans except for schools with no electricity.	2.95	More Challenging	2.90	More Challenging
Grand Mean	**3.0**	**More Challenging**	**2.94**	**More Challenging**

Legend:
3.26 - 4.00 Most Challenging ***(MC)***
2.51 - 3.25 More Challenging ***(MRC)***
1.76 – 2.50 Moderately Challenging ***(MDC)***
1.00 – 1.75 Less Challenging ***(LC)***

Table 1.1.3 presents challenges encountered by internal and external stakeholders in the implementation of face-to-face classes after the pandemic in managing school operations, focusing on classroom layout and structure.

Internal stakeholders find the lack of limited seating and inadequate spacing for maximum learners in classrooms to be more challenging, with a weighted mean score of 3.11. This indicates that they consider these issues significant obstacles that need immediate attention
and action. On the other hand, internal stakeholders rate the presence of markers and stickers for managing traffic and physical distancing in classrooms at a weighted mean score of 2.91. While still challenging, this score suggests that they perceive this issue as somewhat less critical compared to the limited seating and spacing concerns.

External stakeholders also find the lack of limited seating and inadequate spacing in classrooms to be very challenging, with a weighted mean score of 3.05. This indicates that they share similar concerns with internal stakeholders regarding the classroom layout and structure. External stakeholders rate the absence of exhaust fans and HEPA filters

in air-conditioned spaces slightly lower, with a weighted mean score of 2.90. While still challenging, this suggests that they see this issue as somewhat less critical than the limited seating and spacing challenges.

Both Internal Stakeholders (weighted mean: 3.0) and External Stakeholders (weighted mean: 2.94) face more challenging issues related to classroom layout and structure, including limited seating, inadequate spacing, and ventilation problems. Valenzuela and Bienvenido (2021) highlight the need for collaborative efforts among internal and external stakeholders in the education sector to address challenges in facility management. Internal stakeholders, such as school administrators and teachers, are responsible for optimizing classroom layouts, ensuring proper ventilation, and maintaining safety measures to enhance instructional delivery effectiveness. Meanwhile, external stakeholders, including government bodies and parents, must support these efforts through funding and policy advocacy. This collaboration is essential to improve maintenance practices, enhance managerial competencies, and create safer learning environments. Overall, collective action between internal and external stakeholders is crucial for overcoming facility management challenges and improving the quality of education delivery.

Table 1.1.4

Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic in Managing School Operations in Terms of School Traffic Management

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1. There is no available temperature thermal scanner or thermal gun at the entrance and/or exit gates.	3.14	More Challenging	3.05	More Challenging
2. There is no available hand sanitizer or alcohol dispenser at school gates.	3.96	Most Challenging	4.00	Most Challenging
3. There is no available surgical masks at school entrance reserved for symptomatic individuals.	3.11	More Challenging	3.02	More Challenging
4. There is no display of school map at the entrance point indicating the location of the classrooms.	3.03	More Challenging	2.82	More Challenging
5. The school traffic management plan and strategies are not in place to ensure that physical distancing is observed.	2.91	More Challenging	3.04	More Challenging
6. The hallway ground markings for walking direction guide are not present.	2.99	More Challenging	3.01	More Challenging
7. There is no designation of spaces for queue in high traffic areas like restrooms, library, principal's office, etc.	3.14	More Challenging	3.02	More Challenging

8. There is no installation of signage's and/or ground markings in high traffic areas like restrooms and hand washing stations to ensure physical distancing.	2.94	More Challenging	2.95	More Challenging
9. For schools with visually impaired learners and personnel, signage's do not support Braille.	2.96	More Challenging	2.98	More Challenging
Grand Mean	**3.13**	**More Challenging**	**3.10**	**More Challenging**

Legend:
3.26 - 4.00 Most Challenging ***(MC)***
2.51 - 3.25 More Challenging ***(MRC)***
1.76 – 2.50 Moderately Challenging ***(MDC)***
1.00 – 1.75 Less Challenging ***(LC)***

Table 1.1.4 presents the challenges encountered by internal and external stakeholders in the implementation of face-to-face classes after the pandemic, particularly in managing school operations concerning school traffic management.

Internal stakeholders perceive the absence of hand sanitizer or alcohol dispenser at school gates as most challenging, with a weighted mean score of 3.96. This indicates that they consider this issue of utmost importance for maintaining safety. Internal stakeholders rate the availability of temperature thermal scanners at entrance/exit gates slightly lower, with a weighted mean score of 3.14. While still challenging, this score suggests that they see this issue as somewhat less critical than the absence of hand sanitizers. However, external stakeholders also find the absence
of hand sanitizer or alcohol dispenser at school gates to be most challenging, with a weighted mean score of 4.00. This implies that they share the same high level of concern as internal stakeholders regarding this issue. External stakeholders rate the presence of markers and stickers
for traffic management and physical distancing in classrooms slightly lower, with a weighted mean score of 2.82. While still challenging, this suggests that they see this issue as somewhat less critical compared to the absence of hand sanitizers.

In this study, both internal (weighted mean: 3.13) and external (weighted mean: 3.10) stakeholders face challenges related to school traffic management, including the availability of temperature scanners, hand sanitizers, and proper signage.

The need for collaboration between internal and external stakeholders to improve traffic management parallels the recommendations made by Sakurai et al. (2019) according to her studies internal stakeholders are urged to implement safety measures, such as optimizing traffic flow within school premises, external stakeholders are encouraged to provide resources and guidance to enhance overall school safety. Sakurai et al. emphasize the importance of joint and
sustainable efforts by various stakeholders to ensure comprehensive school safety, disaster management, and disaster education. This highlights the significance of collective action in addressing safety concerns within educational settings, where both internal and external stakeholders play vital roles in fostering a secure environment for students and staff.

Table 1.1.5

Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic in Managing School Operations in Terms of Protective Measures, Hygiene Practices, and Safety Procedures

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1. The school has no established contact tracing procedures for all those who enter the school premises.	3.03	More Challenging	2.88	More Challenging
2. The school has not mobilized the school COVID-l9 DRRM team to ensure effective implementation of the school's health and safety protocols that are in place and are observed during the preparation and progressive expansion of face-to-face classes.	3.01	More Challenging	3.09	More Challenging
3. There is no availability of surgical face mask.	3.12	More Challenging	3.14	More Challenging
4. There is no availability of antibacterial soap.	3.00	More Challenging	2.90	Challenging
5. There is no availability of emergency health kits that include PPEs and other needed supplies and materials in the school clinic.	3.09	More Challenging	3.14	More Challenging
6. There is no availability of PPEs for COVID-19 team members, health personnel, maintenance, and security guards.	2.95	More Challenging	3.06	More Challenging
7. There is no availability of handwashing station/s with clean and safe water supply and antibacterial soap.	3.06	More Challenging	2.90	More Challenging
8. There is no availability of clean and safe toilet facilities.	2.96	More Challenging	3.10	More Challenging
9. There are no proper placements of handwashing facilities in strategic locations.	3.06	More Challenging	3.03	More Challenging
10. There are no proper placements of trash bins in strategic locations.	3.05	More Challenging	2.90	More Challenging
11. There are no displays of visual signages on proper waste management practices near trash bins (e.g. biodegradable, non-biodegradable, recyclable).	2.99	More Challenging	3.12	More Challenging
12. There are no displays of visual signages on proper handwashing in handwashing areas.	3.03	More Challenging	2.91	More Challenging
13. The school has not ensured regular sanitation and disinfection of school facilities, furniture, and equipment.	2.98	More Challenging	2.86	More Challenging
14. The school has no availability of a separate leak-proof trash bag/container with a cover properly labelled as "USED PPE" for disposal of all used PPE.	3.11	More Challenging	3.14	More Challenging
15. Collection of the leak-proof trash a day is not observed.	3.03	More Challenging	3.06	More Challenging
16. There is no availability of medical-grade face mask required for school personnel when collecting/handling the leak-proof trashbag/container.	3.01	More Challenging	2.86	More Challenging

17. There is no treatment through disinfection or spraying of the collected wastes with a chlorine solution.	2.96	More Challenging	3.10	More Challenging
18. There is no proper disposal of the disinfected PPEs with general waste to the final disposal facility.	2.96	More Challenging	3.10	More Challenging
Grand Mean	**3.02**	**More Challenging**	**3.02**	**More Challenging**

Legend:
3.26 - 4.00 Most Challenging ***(MC)***
2.51 - 3.25 More Challenging ***(MRC)***
1.76 – 2.50 Moderately Challenging ***(MDC)***
1.00 – 1.75 Less Challenging ***(LC)***

Table 1.1.5 presents the challenges encountered by internal and external stakeholders in the implementation of face-to-face classes after the pandemic, focusing on managing school operations in terms of protective measures, hygiene practices, and safety procedures.

Internal stakeholders find the lack of surgical face masks available at school entrances for symptomatic individuals to be more challenging, with a weighted mean score of 3.12. This indicates that they perceive this issue as a top priority for safety. Internal stakeholders rate the absence of a separate leak-proof trash bag/container with a cover for used PPE disposal as more challenging, with a weighted mean score of 3.11. This score suggests that they see this issue as somewhat less critical than the lack of surgical face masks.

Additionally, external stakeholders also find the lack of surgical face masks at school entrances for symptomatic individuals to be more challenging, with a weighted mean score of 3.14. This suggests that they share the same high level of concern as internal stakeholders regarding this issue. External stakeholders rate the availability of antibacterial soap slightly lower, with a weighted mean score of 2.90. While still challenging, this score suggests that they see this issue as somewhat less critical than the lack of surgical face masks.

Internal stakeholders (weighted mean: 3.02) face challenges such as contact tracing, availability of hygiene supplies, and sanitation practices. External stakeholders (weighted mean: 3.02) perceive these challenges as more challenging. This indicates that internal stakeholders, such as school administrators and teachers, must prioritize the implementation of hygiene practices and safety procedures outlined by the Ministry of Education (MoE, 2020) before schools can reopen. These measures include ensuring that all students and teachers wear face masks, maintaining a proper student-to-desk ratio, limiting the number of students per shift, maintaining physical distancing, and providing adequate supplies of sanitizer, cleaning water, and soap. External stakeholders, on the other hand, play a crucial role in supporting these efforts by ensuring the availability of necessary supplies and offering guidance on best practices to ensure compliance with the set standards. This collaborative approach between internal and external stakeholders is essential for creating a safe and healthy environment conducive to the reopening of schools.

Table 1.1.6

Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic in Managing School Operations in Terms of Communication Strategy

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1. The school has no developed a communication plan.	3.00	More Challenging	2.90	More Challenging
2. There is no identification of platform of communication for coordination purposes among the learners, parents/guardians, and teachers.	3.09	More Challenging	3.10	More Challenging
3. There no database of contact number and address of parents/guardians of the learners is kept for easy retrieval of their contact details in case their child shows flu-like symptoms while in the school premises.	2.95	More Challenging	3.03	More Challenging
4. There is no posting of child-friendly Information, Education and Communication (IEC) materials on hygiene practices and respiratory etiquette including hand hygiene.	3.06	More Challenging	2.90	More Challenging
5. Orientation materials are not available for distribution to teachers, learners, parents, BLGU, DRRM team members, and persons-in-charge in ensuring observance of protocols.	2.96	More Challenging	3.12	More Challenging
6. The school has no proactive COVID-l9 local hotline/help desk or any similar local mechanism that connects and coordinates to the hospitals, testing facilities, and LGUs.	3.06	More Challenging	2.91	More Challenging
Grand Mean	**3.02**	**More Challenging**	**2.99**	**More Challenging**

Legend:
3.26 - 4.00 Most Challenging ***(MC)***
2.51 - 3.25 More Challenging ***(MRC)***
1.76 – 2.50 Moderately Challenging ***(MDC)***
1.00 – 1.75 Less Challenging ***(LC)***

Table 1.1.6. presents the challenges encountered by internal and external stakeholders in the implementation of face-to-face classes after the pandemic, focusing on managing school operations in terms of communication strategy.

Internal stakeholders perceive the absence of a developed communication plan as more challenging, with a weighted mean score of 3.00. This indicates that they consider this issue a
top priority for effective communication. Additionally, internal stakeholders rate the absence of child-friendly Information, Education, and Communication (IEC) materials on hygiene practices
slightly lower, with a weighted mean score of 3.06. While still challenging, this score suggests that they see this issue as somewhat less critical than the lack of a communication plan. Meanwhile, external stakeholders also find the absence of a developed communication plan to be more challenging, with a weighted mean score of

2.90. This suggests that they share the same high level of concern as internal stakeholders regarding this issue. External stakeholders rate the absence of a proactive COVID-19 local hotline/help desk slightly lower, with a weighted mean score of 2.91. While still challenging, this score suggests that they see this issue as somewhat less critical than the lack of a communication plan.

Moreover, both internal (weighted mean: 3.02) and external (weighted mean: 2.99) stakeholders find communication strategy challenges to be challenging. Issues include the absence of a communication plan and contact databases.

It implies that effective communication is essential. Internal stakeholders must develop communication plans, and external stakeholders can assist by sharing information and facilitating communication between schools, parents, and local authorities. This suggests that effective communication is crucial in ensuring the successful implementation of transmission control measures in schools. Internal stakeholders, including school administrators and teachers, must develop comprehensive communication plans to disseminate information about safety protocols, updates, and guidelines to students, staff, and parents. External stakeholders can play a supportive role by sharing relevant information and facilitating communication channels between schools, parents, and local authorities.

As highlighted by Brandon et al. (2020), the continued implementation of transmission control measures, such as class size reduction, physical distancing, face masks, hand washing, temperature checks, and viral or antibody testing, is essential for maintaining a safe school environment. Clear and timely communication between internal and external stakeholders is necessary to ensure everyone remains informed and adheres to these measures effectively. This collaborative approach to communication is vital for minimizing the risk of COVID-19 transmission and maintaining the health and safety of all individuals within the school community.

Table 1.1.7

Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic in Managing School Operations in Terms of Contingency Plan

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1. The school has not prepared a contingency plan for suspension or resumption of classes in case of COVID-l9 resurgence in the community.	2.95	More Challenging	3.09	More Challenging
2. Distance learning modalities in the event of a class suspension due to COVID-19 resurgence is not included in the contingency plan.	3.06	More Challenging	2.98	More Challenging
Grand Mean	**3.01**	**More Challenging**	**3.04**	**More Challenging**

Legend:
3.26 - 4.00 Most Challenging ***(MC)***
2.51 - 3.25 More Challenging ***(MRC)***
1.76 – 2.50 Moderately Challenging ***(MDC)***
1.00 – 1.75 Less Challenging ***(LC)***

Table 1.1.7 presents challenges encountered by internal and external stakeholders in the implementation of face-to-face classes after the pandemic, focusing on managing school operations in terms of a contingency plan.

Internal stakeholders find the absence of a contingency plan for the suspension or resumption of classes in case of a COVID-19 resurgence to be more challenging, with a weighted mean score of 2.95. This indicates that they consider this issue of utmost importance
for preparedness. Internal stakeholders rate the inclusion of distance learning modalities in the contingency plan slightly lower, with a weighted mean score of 3.06. While still challenging, this score suggests that they see this issue as somewhat less critical than the absence of a contingency plan. External stakeholders also find the absence of a contingency plan for suspension or resumption of classes to be more challenging, with a weighted mean score of 3.09. This implies that they share the same high level of concern as internal stakeholders regarding this particular issue. External stakeholders rate the absence of distance learning modalities in the contingency plan slightly lower, with a weighted mean score of 2.98. While still challenging, this suggests
that they see this issue as somewhat less critical than the absence of a contingency plan.

In the study, both internal (weighted mean: 3.01) and external (weighted mean: 3.04) stakeholders perceive challenges in preparing contingency plans for COVID-19 resurgence.

It implies that internal stakeholders should develop comprehensive contingency plans, including distance learning options. External stakeholders can provide guidance and resources to support these plans.

According to Karakose et al. (2022), in these circumstances, the proper implementation of COVID-19 protection protocols during learning and teaching in schools is of paramount importance, as school stakeholders play a key role in the continuation of teaching-learning throughout the epidemic and have undertaken essential responsibilities.

Table 1.2.1

Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic in Focusing on Teaching and Learning in Terms of Learning Resources

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1. There is no available Self-Learning Modules (SLMs) in the event of a class suspension due to COVID- 19 resurgence.	2.97	More Challenging	2.90	More Challenging
2.The school has not ensured that all teachers have the Teacher's Guide/Teachers' Manual on specific grade levels and learning areas that they are handling.	3.13	More Challenging	3.05	More Challenging
3. There is no available Weekly Learning Plan (WLP).	3.85	Most Challenging	3.69	Most Challenging
4. There is no available textbooks and other learning resources.	3.12	More Challenging	3.02	More Challenging
Grand Mean	**3.27**	**Most Challenging**	**3.17**	**Most Challenging**

Legend:
3.26 - 4.00 Most Challenging ***(MC)***
2.51 - 3.25 More Challenging ***(MRC)***
1.76 – 2.50 Moderately Challenging ***(MDC)***
1.00 – 1.75 Less Challenging ***(LC)***

Table 1.2.1 presents challenges encountered by internal and external stakeholders in the implementation of face-to-face classes after the pandemic, specifically focusing on teaching and learning in terms of learning resources.

Internal stakeholders rate the absence of weekly learning plans (WLP) as most challenging, with a weighted mean score of 3.85. This suggests that they consider the availability of WLPs crucial for effective teaching and learning. Internal stakeholders rate the availability of self-learning modules (SLMs) slightly lower, with a weighted mean score of 2.97. While still challenging, this score suggests that they see the absence of SLMs as somewhat less critical compared to the lack of WLPs. External stakeholders also find the absence of weekly learning plans (WLP) most challenging, with a weighted mean score of 3.69. This implies that they share the same high level of concern as internal stakeholders regarding this particular issue. External stakeholders rate the availability of self-learning modules (SLMs) slightly lower, with a weighted mean score of 2.90. While still challenging, this score suggests that they see the absence of SLMs as somewhat less critical than the lack of WLPs.

The absence of critical learning resources such as weekly learning plans, self-learning modules, teacher's guides, and textbooks poses significant challenges for both internal and external stakeholders. To address this, schools should prioritize the development and distribution of these resources to ensure that teaching and learning can continue seamlessly, even in the event of disruptions like COVID-19 resurgence.

Due to the pandemic, teachers shared as many materials as possible and expected students to choose the best materials for themselves, which caused many

challenges for students. Amita (2020) stated that learners encountered difficulties in choosing the best source amongst many sent by their teachers, affecting their academic performance and increasing their anxiety and frustration.

In the study of Agayon et al. (2021), they found out that teachers are greatly challenged in terms of learning' quality transfer, module distribution and retrieval, students' difficulties in following instruction, power disruption, internet connection, and health risks posed by the pandemic.

Table 1.2.2

Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic in Focusing on Teaching and Learning in Terms of Face-to-Face Classes

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1. The arrival, breaks, and dismissal time are not staggered to avoid crowding of learners in the school premises.	2.42	Moderately Challenging	2.59	More Challenging
2. The school has not developed a teaching schedule that follows the minimum contact time for teaching and learning.	2.33	Moderately Challenging	2.58	More Challenging
3. The school has not ensured that learning remediation/interyention is part of the regular class schedule and daily teaching time.	2.36	Moderately Challenging	2.58	More Challenging
4.The school has not ensured that the class size in standard number of 40 and below.	2.37	Moderately Challenging	2.58	More Challenging
5.The school has not comprehensively profiled learners who participated in the progressive expansion of the face-to-face classes.	2.33	Moderately Challenging	2.59	More Challenging
Grand Mean	**2.36**	**Moderately Challenging**	**2.58**	**More Challenging**

Legend:
3.26 - 4.00 Most Challenging ***(MC)***
2.51 - 3.25 More Challenging ***(MRC)***
1.76 – 2.50 Moderately Challenging ***(MDC)***
1.00 – 1.75 Less Challenging ***(LC)***

Table 1.2.2 presents challenges encountered by internal and external stakeholders in the implementation of face-to-face classes after the pandemic, focusing on teaching and learning in terms of face-to-face classes.

Internal stakeholders perceive that the lack of staggered arrival, breaks, and dismissal times, leading to crowded conditions in the school premises, is moderately challenging, with a weighted mean score of 2.42. This suggests that they consider this

issue important for safety. Internal stakeholders rate the absence of learning remediation/intervention as part of the regular class schedule and daily teaching time slightly lower, with a weighted mean score of 2.36. While still challenging, this score suggests that they see this issue as somewhat less critical than staggered arrival and dismissal times. External stakeholders also find the lack of staggered arrival, breaks, and dismissal times to avoid crowding of learners in the school premises more challenging, with a weighted mean score of 2.58. This implies that they share the same level of concern as internal stakeholders regarding this issue. External stakeholders rate the absence of clear procedure for referral systems for COVID-19 confirmed and suspected personnel and learners slightly lower, with a weighted mean score of 2.58. While still challenging, this score suggests that they see this issue as somewhat less critical than staggered arrival and dismissal times.

It implies that staggering arrival, breaks, and dismissal times to avoid crowding and implementing remediation/intervention in the regular class schedule are seen as crucial safety measures. Schools need to focus on these areas to ensure a safe and effective return to face-to-face classes. Additionally, clear procedures for referral systems related to COVID-19 cases should be established to address health concerns promptly.

As a result of the research, school administrators revealed that technology leadership and crisis management skills are important needs in the pandemic process and that their competencies should be improved in these areas. In this context, characteristics and roles of good education, a good school, an ideal manager, and an ideal teacher would change after the pandemic. It is predicted that soon, digital learning shall become the main basis of education beyond support or an alternative to face-to-face learning.

The school heads must not only equip themselves with the knowledge of identifying these challenges, but they are expected to manage, capacitate, and empower the school personnel to make sure that equality and equity will be made possible. (DepEd Order No. 24 s.2020). Although this new normal setting in Education is crucial for school leaders, it will also allow them to test their management skills, specifically in making decisions. Having this situation, the school leaders need to consider alternative solutions to ensure that no child will be left behind and that Education will continue in this time of health crisis.

Table 1.2.3

Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic in Focusing on Teaching and Learning in Terms of Teacher's Support

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
10.There is no provision of School-Based Learning Action Cells (LAC) sessions to ensure the ability of teachers to deliver relevant teaching and learning strategies and ensure continuity of learning through a combination of distance learning and face-to-face classes.	2.54	More Challenging	2.21	Moderately Challenging
11.The school does not conduct coaching, mentoring, and training relevant in facilitating blended learning approach.	2.44	Moderately Challenging	2.18	Moderately Challenging
12.There is no orientation on the implementation of the Most Essential Learning Competencies (MELCs) included in their budget of work during the face-to-face classes.	2.49	Moderately Challenging	2.19	Moderately Challenging
13.There is no orientation on the observance of academic ease and provision of flexibility to learners in managing face-to-face classes.	2.51	More Challenging	2.21	Moderately Challenging
Grand Mean	**2.50**	**Moderately Challenging**	**2.20**	**More Challenging**

Legend:
3.26 - 4.00 Most Challenging ***(MC)***
2.51 - 3.25,More Challenging ***(MRC)***
1.76 – 2.50, Moderately Challenging ***(MDC)***
1.00 – 1.75, Less Challenging ***(LC)***

Table 1.2.3 presents challenges encountered by internal and external stakeholders in the implementation of face-to-face classes after the pandemic, focusing on teaching and learning in terms of teacher's support.

Internal stakeholders perceive the absence of School-Based Learning Action Cells (LAC) sessions as more challenging, with a weighted mean score of 2.54. This suggests that they consider these sessions important for teacher development and effective teaching. Internal stakeholders rate the absence of coaching, mentoring, and training relevant to facilitating a blended learning approach slightly lower, with a weighted mean score of 2.44. While still challenging, this score suggests that they see this issue as somewhat less critical than the absence of LAC sessions. External stakeholders also find the absence of School-Based Learning Action Cells (LAC) sessions more challenging, with a weighted mean score of 2.21. This implies that
they share the same level of concern as internal stakeholders regarding this particular issue. External stakeholders rate the absence of orientation on the implementation of the Most Essential Learning Competencies (MELCs) slightly lower, with a weighted mean score of 2.19. While still challenging, this score suggests that they see this issue as somewhat less critical than the absence of LAC sessions.

It implies that internal stakeholders emphasize the importance of School-Based Learning Action Cells (LAC) sessions for teacher development. Schools should prioritize the organization of these sessions to equip teachers with effective teaching and learning strategies. Additionally, coaching, mentoring, training, and orientation on relevant topics should be provided to enhance teacher preparedness.

Educators from all grades and contexts experienced the necessity of rethinking their roles, ways of supporting students' learning tasks (Rodríguez-Triana et al. 2020), and the image of students as self-organizing learners, active citizens, and autonomous social agents (Council of Europe 2016, 2018). This shift requires new learning, not only for students but especially for teachers. As Hollander (2021) intelligently remarks, 'the pandemic is taking higher education back to school.'

In 2018, Ezeugbor et al. conducted a study focusing on principals' staff personnel administrative strategies for fostering teacher job satisfaction. They discovered that principals must outsource funds internally or externally to provide teachers with a safe working atmosphere that allows them to demonstrate their best qualitative teaching.

Table 1.3.1

Challenges Encountered by the School Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic in Well-being and Protection in Terms of School Disinfection and Sanitation

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1.The school has not ensured that the available sanitation and disinfection materials are approved by the Philippine Food and Drug Administration (FDAI).	2.96	More Challenging	2.90	More Challenging
2.There is no availability of hand-sanitizers/alcohol-based solutions/other disinfectants in restrooms.	3.14	More Challenging	3.05	More Challenging
3.There is no availability of hand-sanitizers/alcohol-based solutions/other disinfectants in classroom.	3.59	Most Challenging	3.57	Most Challenging
4.There is no availability of disinfectant like hand-sanitizers/alcohol-based solutions in entrance/exit point.	3.11	More Challenging	3.02	More Challenging
Grand Mean	**3.20**	**Most Challenging**	**3.14**	**Most Challenging**

Legend:
3.26 - 4.00 Most Challenging ***(MC)***
2.51 - 3.25 More Challenging ***(MRC)***
1.76 – 2.50 Moderately Challenging ***(MDC)***
1.00 – 1.75 Less Challenging ***(LC)***

Table 1.3.1 presents challenges encountered by internal and external stakeholders in the implementation of face-to-face classes after the pandemic, focusing on well-being and protection in terms of school disinfection and sanitation.

Internal stakeholders perceive the absence of hand sanitizers/alcohol-based solutions/other disinfectants in classrooms as most challenging, with a weighted mean

score of 3.59. This indicates that they consider this issue to be of utmost importance for maintaining hygiene. Internal stakeholders rate the absence of hand sanitizers/alcohol-based solutions/other disinfectants in restrooms slightly lower, with a weighted mean score of 3.14. While still challenging, this score suggests that they see this issue as somewhat less critical than the absence of these materials in classrooms. External stakeholders also find the absence of hand sanitizers/alcohol-based solutions/other disinfectants in classrooms as most challenging, with a weighted mean score of 3.57. This implies that they share the same high level of concern as internal stakeholders regarding this particular issue. External stakeholders rate the absence of hand sanitizers/alcohol-based solutions/other disinfectants in entrance/exit points slightly lower, with a weighted mean score of 3.02. While still challenging, this score suggests that they see this issue as somewhat less critical than the absence of these materials in classrooms.

The provision of hand sanitizers, alcohol-based solutions, and disinfectants in classrooms and other school areas is vital for maintaining hygiene and preventing the spread of diseases like COVID-19. Schools must ensure the availability of these materials and maintain rigorous sanitation practices to protect the health of students and staff.

Bender, L. (2020) stated that schools should enforce regular hand washing with safe water and soap, alcohol rub/hand sanitizer, or chlorine solution at a minimum, daily disinfection, and cleaning of school surfaces.

Table 1.3.2

Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic in Well-being and Protection in Terms of COVID-19 Case Management

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1.The school has not identified the strategies to detect COVID- 19 among the learners.	2.99	More Challenging	3.06	More Challenging
2.The school has not identified the strategies to isolate and manage learners with COVID- 19 symptoms	3.13	More Challenging	3.02	More Challenging
3.The school has not ensured availability and maintained the provision of basic mental health and psychosocial support, as well as guidance and counselling services to learners, teachers, and personnel for the entire school year.	3.11	More Challenging	3.19	More Challenging
4.The school has not established a clear procedure of referral system for COVID-l9 confirmed and suspected personnel and learners.	3.10	More Challenging	3.22	More Challenging
5.The school has not established a clear contact tracing and quarantine system for close contacts of COVID- 19 confirmed positive cases.	2.97	More Challenging	3.10	More Challenging
Grand Mean	**3.06**	**More Challenging**	**3.12**	**More Challenging**

Legend:
3.26 - 4.00,Most Challenging 2.51 - 3.25, More Challenging 1.76 – 2.50, Moderately Challenging 1.00 – 1.75, Less Challenging

Table 1.3.2 presents the challenges encountered by internal and external stakeholders in the implementation of face-to-face classes after the pandemic, focusing on well-being and protection in terms of COVID-19 case management.

Internal stakeholders perceive the absence of strategies to isolate and manage learners with COVID-19 symptoms as more challenging, with a weighted mean score of 3.13. This suggests that they consider this issue important for the safety and health of learners. Internal stakeholders rate the absence of a clear contact tracing and quarantine system for close contacts of COVID-19 confirmed positive cases slightly lower, with a weighted mean score of 2.97. While still challenging, this score suggests that they see this issue as somewhat less critical than the absence of strategies for learners with symptoms. External stakeholders also find the absence of strategies to isolate and manage learners with COVID-19 symptoms more challenging, with a weighted mean score of 3.02. This implies that they share the same level of concern as internal stakeholders regarding this particular issue. External stakeholders rate the absence of strategies to detect COVID-19 among learners slightly lower, with a weighted mean score of 3.06. While still challenging, this score suggests that they see this issue as somewhat less critical than the absence of strategies for learners with symptoms.

It implies that the development of strategies to detect, isolate, manage COVID-19 cases, and provide mental health support is essential. Schools should establish clear procedures for referral and contact tracing systems, ensuring the safety and well-being of everyone within the school community.

In the same manner, well-being is also considered by the Department of Education in the implementation of face-to-face teaching as indicated in D.M. No. 30, s. 2022. It is adopted in the context of DepEd in all public secondary schools to protect the student's and teachers' well- being against COVID all over the country, which is consisted of indicators such as school disinfection, Sanitation, and COVID-19 Case Management, including most marginalized.

Table 1.3.3

Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic in Well-being and Protection in Terms of Including the Most Marginalized

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1.The school has not established a mechanism in identifying learners who are most vulnerable and disadvantaged in terms of access to learning.	2.55	More Challenging	2.21	Moderately Challenging
2.The school has not developed learning strategies to cater the needs of the marginalized learners, such as modules in Braille, mother- languages, and usage of Filipino Sign Language.	2.44	Moderately Challenging	2.18	Moderately Challenging
3.The school has not ensured participation in school-based services in which includes but is not limited to feeding and nutrition programs, immunizations, Mental Health and psychosocial Support, prevention of Violence against Children (VAC).	2.49	Moderately Challenging	2.19	Moderately Challenging
4.The school has not established close coordination with the Department of Social Welfare and Development (DSWD) Case Managers of those learners who are marginalized.	2.51	More Challenging	2.21	Moderately Challenging
Grand Mean	**2.50**	**Moderately Challenging**	**2.20**	**Moderately Challenging**

Legend:
3.26 - 4.00 Most Challenging ***(MC)***
2.51 - 3.25 More Challenging ***(MRC)***
1.76 – 2.50 Moderately Challenging ***(MDC)***
1.00 – 1.75 Less Challenging ***(LC)***

Table 1.3.3 presents challenges encountered by internal and external stakeholders in the implementation of face-to-face classes after the pandemic, focusing on well-being and protection in terms of including the most marginalized.

Internal stakeholders perceive the absence of a mechanism for identifying learners who are most vulnerable and disadvantaged in terms of access to learning as more challenging, with a weighted mean score of 2.55. This suggests that they consider this issue important for equity in education. Internal stakeholders rate the absence of close coordination with the Department of Social Welfare and Development (DSWD) Case Managers of those learners who are marginalized slightly lower, with a weighted mean score of 2.51. While still challenging, this score suggests that they see this issue as somewhat less critical than the mechanism for
identifying vulnerable learners. External stakeholders also find the absence of a mechanism for identifying vulnerable learners moderately challenging, with a weighted mean score of 2.21. This implies that they share the same level of concern as internal stakeholders regarding this particular issue. External stakeholders rate the absence of

learning strategies to cater to the needs of marginalized learners slightly lower, with a weighted mean score of 2.18. While still challenging, this score suggests that they see this issue as somewhat less critical than the mechanism for identifying vulnerable learners.

It implies that the development of strategies to detect, isolate, manage COVID-19 cases, and provide mental health support is essential. Schools should establish clear procedures for referral and contact tracing systems, ensuring the safety and well-being of everyone within the school community.

Brandon et al. (2020) underscore the critical importance of implementing transmission

control measures like class size reduction, physical distancing, and face masks to combat the spread of COVID-19 in educational settings. Despite these difficulties, teachers demonstrated resilience by employing coping techniques. As the situation is unlikely to improve soon, educators must remain adaptable, emphasizing continued adherence to safety measures and the provision of ongoing support to ensure the continuity of education.

Table 1.4

Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic in Terms of School-Community Coordination

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1.The school has not developed a plan for the coordination with the Barangay Local Government Unit (BLGU) or the Barangay Health Emergency Response Team TBHERT) in ensuring that protocols are observed properly.	2.45	Moderately Challenging	2.59	More Challenging
2.The school has not coordinated with their respective local government units the implementation of routine school-based immunization (SBI) and other school health-related services, such as but not limited to deworming and weekly iron-folate acid supplementation.	2.38	Moderately Challenging	2.58	More Challenging
2. In collaboration with their local health offices, the school has no developed intensive health promotion campaign activities /support-policies to maintain optimal health seeking behaviors of learners and other community members.	2.41	Moderately Challenging	2.58	More Challenging
Grand Mean	**2.41**	**Moderately Challenging**	**2.58**	**More Challenging**

Legend: *3.26 - 4.00, Most Challenging 2.51 - 3.25, More Challenging 1.76 – 2.50, Moderately Challenging, 1.00 – 1.75 , Less Challenging*

Table 1.4 presents challenges encountered by internal and external stakeholders in the implementation of face-to-face classes after the pandemic, focusing on school-community coordination.

Internal stakeholders perceive the absence of a plan for coordination with the Barangay Local Government Unit (BLGU) or the Barangay Health Emergency Response Team (BHERT) as moderately challenging, with a weighted mean score of 2.45. This suggests that they consider this issue important for effective coordination. Internal stakeholders rate the absence of

coordination with respective local government units for routine school-based immunization and other school health-related services slightly lower, with a weighted mean score of 2.38. While still challenging, this score suggests that they see this issue as somewhat less critical than the absence of a coordination plan with BLGU/BHERT. External stakeholders also find the absence of a plan for coordination with the BLGU/BHERT more challenging, with a weighted mean score of 2.59. This implies that they share the same level of concern as internal stakeholders regarding this issue. External stakeholders rate the absence of coordination with respective local government units for routine school-based immunization and other school health-related services slightly lower, with a weighted mean score of 2.58. While still challenging, this score suggests that they see this issue as somewhat less critical than the absence of coordination with BLGU/BHERT.

Effective coordination with local government units, health teams, and community stakeholders is vital. Schools should develop clear plans for collaboration with entities like Barangay Local Government Units (BLGU) and Health Emergency Response Teams (BHERT) to ensure that health and safety protocols are properly observed. Coordination for school-based health services, including immunization and health promotion, is also necessary.

Coordination is the function of management that ensures that different departments and groups work in sync (Topper, 2017). Therefore, there is unity of action among the employees, groups, and departments. It also brings harmony in carrying out the different tasks and activities to efficiently achieve the organization's objectives. Coordination is an important aspect of any group effort. When an individual is working, there is no need for coordination. Therefore, the coordination function is an orderly arrangement of efforts providing unity of action to pursue a common goal. In an organization, all the departments must be part of a cohesive unit to optimize performance.

Part II. Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-face Classes After the Pandemic

Table 2.1.1

Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic in Managing School Operations in Terms of Shared Responsibility

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1.The school has mobilized resources and support from community stakeholders to meet the standards of the health and safety protocols.	3.10	More Applied	3.09	More Applied
2. The school has conducted simulation activities among school personnel regarding protocols and routines to replicate and discuss possible scenarios during the actual conduct of face-to-face classes.	3.16	More Applied	3.12	More Applied
Grand Mean	**3.13**	**More Applied**	**3.11**	**More Applied**

Legend:
3.26 - 4.00 Most Applied
2.51 - 3.25 More Applied
1.76 – 2.50 Moderately Applied
1.00 – 1.75 Less Applied

Table 2.1.1 presents the coping strategies applied by both internal and external stakeholders in the implementation of face-to-face classes after the pandemic, specifically focusing on managing school operations in terms of Shared Responsibility.

"The school has conducted simulation activities among school personnel regarding protocols and routines" (weighted mean: 3.16). "The school has mobilized resources and support from community stakeholders to meet the standards of the health and safety protocols" (weighted mean: 3.09).

The weighted mean scores for both internal stakeholders (3.13) and external stakeholders (3.11) indicate a consensus among the stakeholders that the school has successfully mobilized resources and support from the community to meet health and safety standards.

With weighted mean scores above 3, this reflects a positive outlook, suggesting that shared responsibility is an opportunity that the school can capitalize on to ensure the smooth implementation of face-to-face classes after the pandemic. Internal stakeholders demonstrate strong support for simulation activities, indicating their confidence in preparedness. However, external stakeholders' slightly lower score regarding mobilizing community support suggests a potential need for better engagement and collaboration with the community to strengthen shared responsibility.

The school heads must not only equip themselves with the knowledge of identifying these challenges and opportunities, but they are expected to manage, capacitate, and empower the school personnel to ensure that equality and equity will be made possible (DepEd Order No. 24 s.2020).

Table 2.1.2

Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic in Managing School Operations in terms of Work Arrangements

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1.The number of teachers who will physically report meets the availability of vaccinated teachers who handle face-to-face classes in a safe learning environment to learners.	3.08	More Applied	3.06	More Applied
2.The school has oriented all its personnel on the work arrangement implemented during the face-to-face classes.	3.09	More Applied	3.00	More Applied
Grand Mean	**3.09**	**More Applied**	**3.03**	**More Applied**

Legend:
3.26 - 4.00 Most Applied ***(MA)***
2.51 - 3.25, More Applied ***(MRA)***
1.76 – 2.50, Moderately Applied ***(MDA)***
1.00- 1.75 Less Applied ***(LA)***

Table 2.1.2 presents coping strategies applied by both internal and external stakeholders in managing school operations, specifically focusing on work arrangements.

"The school has oriented all its personnel on the work arrangement" (weighted mean: 3.09). "The number of teachers who will physically report meets the availability of vaccinated teachers who handle face-to-face classes" (weighted mean: 3.06).

The weighted mean scores for both internal stakeholders (3.09) and external stakeholders (3.03) are above 3, indicating agreement regarding the alignment of teachers' physical presence with vaccination status and personnel orientation. However, the slightly lower weighted mean score for external stakeholders suggests that there might be room for improvement in communication and training to ensure that all staff members fully understand and embrace the proposed work arrangements.

It implies that internal stakeholders show confidence in personnel orientation. The lower weighted mean score among external stakeholders highlights the importance of addressing concerns related to the number of vaccinated teachers, indicating a need for clearer communication and planning.

Table 2.1.3

Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic in Managing School Operations in Terms of Classroom Layout and Structure

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1. The number of seats to be occupied must does not exceed the required number of maximum learners in the classroom.	3.07	More Applied	3.06	More Applied
2.Seats to be occupied have at least l-2 meters apart.	3.09	More Applied	2.99	More Applied
3.There are presence of markers and stickers on the floor to manage traffic system and physical distancing inside the classroom.	3.09	More Applied	3.06	More Applied
4.In non-air-conditioned spaces, windows and doors are open.	3.10	More Applied	3.00	More Applied
5. In air-conditioned spaces, the school install exhaust fans and HEPA filters guided by DOLE Department Order No.224-221 Guidelines on Ventilation for Workplaces and public Transport.	3.11	More Applied	3.06	More Applied
5. Regardless of the HVAC system, all classrooms have working electric fans except for schools with no electricity.	3.10	More Applied	2.99	More Applied
Grand Mean	**3.09**	**More Applied**	**3.03**	**More Applied**

Legend: 3.26 - 4.00,Most Applied 2.51 - 3.25, More Applied 1.76 – 2.50, Moderately Applied 1.00 – 1.75, Less Applied

Table 2.1.3 presents coping strategies applied by both internal and external stakeholders in managing school operations, specifically focusing on classroom layout and structure. The indicator "In air-conditioned spaces, install exhaust fans and HEPA filters" received the highest weighted mean of 3.11 by internal stakeholders. Stakeholders generally agree on the importance of various classroom enhancements, as indicated by the weighted mean scores for both internal stakeholders (3.09) and external stakeholders (3.03).

However, there are specific concerns reflected in the slightly lower weighted mean scores for items related to the installation of exhaust fans and HEPA filters and maintaining adequate spacing between seats. Addressing these concerns through communication and possible adjustments is vital to ensure a safe and conducive classroom environment. Internal stakeholders support the installation of safety measures in air-conditioned spaces. External stakeholders' lower weighted mean score regarding seat spacing suggests the need for better explanation and assurance of safe classroom arrangements.

The study by Akpabio (2019) revealed that the physical environment is a major determinant in attaining the school's objectives; thus, school managers should conduct a comprehensive needs assessment of facilities

Table 2.1.4

Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic in Managing School Operations in Terms of School Traffic Management

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
11. The school has available temperature thermal scanner or thermal gun at the entrance and/or exit gates.	3.10	More Applied	3.06	More Applied
12.The school has available hand sanitizer or alcohol dispenser at gates.	3.10	More Applied	2.99	More Applied
12. The school has available surgical masks at school entrance reserved for symptomatic individuals.	3.08	More Applied	3.06	More Applied
13. The school has available display of school map at the entrance point indicating the location of the classrooms.	3.10	More Applied	3.02	More Applied
15.The school traffic management plan and strategies are in place to ensure that physical distancing is observed.	3.10	More Applied	3.04	More Applied
16.The hallway ground markings for walking direction guide are present.	3.09	More Applied	3.02	More Applied
17.There school has proper designation of spaces for queue in high traffic areas like restrooms, library, principal's office, etc.	3.09	More Applied	3.03	More Applied
18. The school has installation of signages and/or ground markings in high traffic areas like restrooms and handwashing stations to ensure physical distancing.	3.09	More Applied	3.02	More Applied
19. For schools with visually impaired learners and personnel, signages must be in Braille.	3.08	More Applied	3.02	More Applied
Grand Mean	**3.09**	**More Applied**	**3.03**	**More Applied**

Legend:
3.26 - 4.00 Most Applied ***(MA)*** *2.51 - 3.25, More Applied* ***(MRA)*** *1.76 – 2.50, Moderately Applied* ***(MDA)*** *1.00- 1.75 Less Applied* ***(LA)***

Table 2.1.4 presents the coping strategies applied by school stakeholders in the implementation of face-to-face classes after the pandemic, specifically focusing on managing school operations in terms of school traffic management.

The indicator "School traffic management plan and strategies are in place" received the highest weighted mean of 3.10, while the indicator "Availability of hand sanitizer or alcohol dispenser at school gates" obtained the lowest weighted mean of 2.99.

The weighted mean scores for both internal stakeholders (3.09) and external stakeholders (3.03) suggest general support for the implementation of school traffic management measures.

However, there are concerns regarding the installation of signages in high-traffic areas, as indicated by the lower weighted mean scores. Effective communication and addressing these concerns will be essential for the smooth management of school traffic during face-to-face classes.

Giuseppina et al. (2020) found out that cleaning and disinfecting floors, surfaces, and all premises with alcohol or sanitizer should be done at least once per day with additional cleaning on frequently
touched surfaces like door handles. He also stated that toilets must be cleaned frequently at least two or three times a day.

Table 2.1.5

Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic in Managing School Operations in Terms of Protective Measures, Hygiene Practices, and Safety Procedures

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1.The school has established contact tracing procedures for all those who enter the school premises.	3.10	More Applied	2.98	More Applied
2.The school has mobilized the school COVID-l9 DRRM team to ensure effective implementation of the school's health and safety protocols that are in place and are observed during the preparation and progressive expansion of face-to-face classes.	3.08	More Applied	3.06	More Applied
3.There is availability of surgical face mask.	3.11	More Applied	2.98	More Applied
4.There is availability of antibacterial soap.	3.09	More Applied	3.06	More Applied
5.There is availability of emergency health kits that include PPEs and other needed supplies and materials in the school clinic.	3.10	More Applied	2.98	More Applied
6.There is availability of PPEs for COVID-19 team members, health personnel, maintenance, and security guards.	3.08	More Applied	3.06	More Applied
7.There is available handwashing station/s with clean and safe water supply and antibacterial soap.	3.10	More Applied	2.98	More Applied
8.There is availability of clean and safe toilet facilities.	3.09	More Applied	3.07	More Applied
9.There are placements of hand washing facilities in strategic locations.	3.11	More Applied	2.98	More Applied
10.There are placements of trash bins in strategic locations.	3.08	More Applied	3.06	More Applied
11.There are displays of visual sign ages on proper waste management practices near trash bins.	3.11	More Applied	2.98	More Applied
12.There are display of visual signages on proper hand washing in hand washing areas.	3.08	More Applied	3.07	More Applied
13.The school has ensured regular sanitation and disinfection of school facilities, furniture, and equipment.	3.12	More Applied	2.98	More Applied
14.The school has availability of a separate leak-proof trash bag/container with a cover properly labelled as "USED PPE" for disposal of all used PPE.	3.10	More Applied	3.06	More Applied

15.The school sets a collection of the leak-proof trash a day.	3.10	More Applied	2.98	More Applied
16.There is the availability of medical-grade face mask required for school personnel when collecting trashbag/container.	3.09	More Applied	3.08	More Applied
17.There is treatment through disinfection or spraying of the collected wastes with a chlorine solution.	3.11	More Applied	2.98	More Applied
18.There is proper disposal of the disinfected PPEs with general waste to the final disposal facility.	3.09	More Applied	3.06	More Applied
Grand Mean	**3.10**	**More Applied**	**3.02**	**More Applied**

Legend:
3.26 - 4.00 Most Applied
2.51 - 3.25 More Applied
1.76 – 2.50 Moderately Applied
1.00 – 1.75 Less Applied

Table 2.1.5 presents the coping strategies applied by school internal and external stakeholders in the implementation of face-to-face classes after the pandemic, focusing on managing school operations in terms of Protective Measures, Hygiene Practices, and Safety Procedures.

The grand weighted mean of 3.10 for internal stakeholders suggests a generally positive perception of the school's efforts in implementing COVID-19 safety measures. Internal stakeholders, including school staff, teachers, and administrators, view the school's initiatives such as regular sanitation, contact tracing, availability of hand washing stations, and emergency health kits positively. This indicates a high level of trust in the school's ability to provide a safe environment for both students and staff during face-to-face classes. The implication is that the school should maintain and further enhance these measures to ensure the ongoing safety of the school community. Additionally, continuous communication and feedback mechanisms with internal stakeholders can help address any specific concerns or areas for improvement.

The grand weighted mean of 3.02 for external stakeholders indicates that they also have a generally positive perception of the school's safety measures. External stakeholders, including parents, local authorities, and community members who interact with the school but are not part of its internal operations, recognize the school's efforts in areas such as the mobilization of teams, availability of antibacterial soap, and proper disposal practices. The implication here is that the school should maintain transparent communication with external stakeholders to keep them informed about safety measures and any changes in protocols. Collaborative efforts between the school and external stakeholders are essential to create a safe and supportive educational environment.

In summary, the grand weighted means suggest that both internal and external stakeholders perceive the school's COVID-19 safety measures positively, but there is always room for improvement and ongoing vigilance to ensure the safety and well-being of everyone
involved in the school community. Effective communication and continuous monitoring of these measures are crucial to maintain and enhance stakeholder trust and confidence.

The study conducted by Filomena et al. (2021) delved into the challenges faced in ensuring the continuity of teaching and learning in public higher education institutions in

the Philippines amidst and following the COVID-19 pandemic. This study resonates with the guidelines outlined by the Ministry of Education (MoE) in 2020 and the Werabe administrative town education office in 2020, which emphasize the necessity for schools to adhere to specific standards before resuming operations.

In accordance with these guidelines, schools are mandated to implement various safety measures to mitigate the spread of COVID-19 within educational settings. These measures include the compulsory wearing of face masks by both students and teachers, ensuring the allocation of one desk per student to maintain adequate physical distancing, limiting the number of students per shift to a maximum of 1000, enforcing a minimum 2-meter distance between staff and students within the school premises, and providing sufficient supplies of sanitizer, cleaning water, and soap tailored to the size of the student population.

The findings of Filomena et al. (2021) shed light on the practical challenges encountered by educational institutions in adhering to these standards while striving to sustain effective teaching and learning practices amidst the ongoing pandemic. The study underscores the importance of understanding and addressing these challenges to ensure the safety and well-being of students and staff, as well as the continuity of education during and beyond the pandemic era.

Table 2.1.6

Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic in Managing School Operations in Terms of Communication Strategy

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1.The school has developed a communication plan.	3.08	More Applied	2.98	More Applied
2.There is identification of platform of communication for coordination purposes among the learners, parents/guardians, and teachers.	3.10	More Applied	3.06	More Applied
3.There is database of contact number and address of parents/guardians of the learners is kept for easy retrieval of their contact details in case their child shows flu-like symptoms while in the school premises.	3.09	More Applied	2.98	More Applied
4.There is posting of child-friendly Information, Education and Communication (IEC) materials on hygiene practices and respiratory etiquette including hand hygiene.	3.11	More Applied	3.07	More Applied
5.Orientation materials are made available for distribution to teachers, learners, parents, BLGU, DRRM team members, and persons-in-charge in ensuring observance of protocols.	3.08	More Applied	2.98	More Applied
6.The school has a proactive COVID-l9 local hotline/help desk or any similar local mechanism that connects and coordinates to the hospitals, testing facilities, and LGUs.	3.09	More Applied	2.98	More Applied
Grand Mean	**3.09**	**More Applied**	**3.01**	**More Applied**

Legend:
3.26 - 4.00 Most Applied ***(MA)***
2.51 - 3.25 More Applied ***(MRA)***
1.76 – 2.50 Moderately Applied ***(MDA)***
1.00- 1.75 Less Applied ***(LA)***

Table 2.1.6 presents the coping strategies applied by school stakeholders in the implementation of face-to-face classes after the pandemic, focusing on managing school operations in terms of Communication Strategy.

Internal stakeholders, including school staff, teachers, and administrators, perceive the school's communication strategy positively, with a grand weighted mean of 3.09. This indicates that internal stakeholders believe the school has taken significant steps to establish effective communication channels and plans. They recognize the development of a communication plan, the identification of communication platforms for coordination among learners, parents/guardians, and teachers, and the availability of contact information for quick response to health-related concerns. Additionally, the posting of child-friendly Information, Education, and Communication (IEC) materials and orientation materials for various stakeholders contributes to this positive perception. The presence of a proactive COVID-19 local hotline or help desk further demonstrates the school's commitment to clear and efficient communication during the pandemic. Overall, internal stakeholders view these communication strategies as coping strategies for effective coordination and information dissemination.

External stakeholders, such as parents, local authorities, and community members, also perceive the school's communication strategy positively, with a grand weighted mean of 3.01. This suggests that external stakeholders recognize the school's efforts in establishing communication channels and plans, albeit slightly lower than internal stakeholders. They acknowledge the identification of communication platforms and the availability of contact information for parents/guardians in case of flu-like symptoms in students. Furthermore, the posting of child-friendly IEC materials and orientation materials is seen as for effective communication. However, external stakeholders may perceive a lower level of proactive engagement through a COVID-19 local hotline or help desk compared to internal stakeholders.

These perceptions underscore the importance of effective communication strategies in managing school operations during and after the pandemic. For internal stakeholders, maintaining clear and consistent communication channels, orientation materials, and a proactive COVID-19 hotline will be crucial to sustain their positive perception and ensure efficient coordination within the school community. External stakeholders' recognition of these communication strategies signifies a level of trust, but the school should continue to improve and expand communication efforts to address their specific concerns and maintain transparency. Both internal and external stakeholders should be kept well-informed about safety protocols and any changes in the school's response to the ongoing COVID-19 situation to ensure a safe and cooperative educational environment.

DepEd Order No. 24 s.2020 mandates that school heads not only identify challenges but also manage, capacitate, and empower school personnel to ensure equality and equity in education. This aligns with research findings by Bruns, Filmer, and Patrinos (2020), which emphasize that involving multiple stakeholders enhances school

management. Collaboration between schools and community members is encouraged to facilitate school improvement, as highlighted in the study by Olguin and Keim (2019), which underscores the significance of active participation from students, parents, community members, and administrators in planning and executing various school processes. Thus, the involvement and empowerment of stakeholders, as emphasized by educational policies and supported by research, contribute to effective school management and improvement initiatives.

Table 2.1.7

Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic in Managing School Operations in Terms of Contingency Plan

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1.The school has prepared a contingency plan for suspension or resumption of classes in case of COVID-l9 resurgence in the community.	3.11	More Applied	2.98	More Applied
2.Distance learning modalities in the event of a class suspension due to COVID-19 resurgence is included in the contingency plan.	3.08	More Applied	3.07	More Applied
Grand Mean	**3.10**	**More Applied**	**3.03**	**More Applied**

Legend:
*3.26 - 4.00 Most Applied **(MA)***
*2.51 - 3.25 More Applied **(MRA)***
*1.76 – 2.50 Moderately Applied **(MDA)***
*1.00- 1.75 Less Applied **(LA)***

Table 2.1.7 presents opportunities encountered by school stakeholders in the implementation of face-to-face classes after the pandemic, focusing on managing school operations in terms of the contingency plan.

Internal stakeholders, including school staff, teachers, and administrators, maintain a positive perception of the school's contingency plan, as indicated by the grand weighted mean of 3.10. They recognize the school's efforts in preparing a contingency plan for the suspension or resumption of classes in case of a COVID-19 resurgence in the community. Additionally, they appreciate the inclusion of distance learning modalities in the plan, ensuring that education can continue effectively in the event of class suspension. This positive perception suggests that internal stakeholders have confidence in the school's ability to adapt to changing circumstances and prioritize the continuation of education.

External stakeholders, which may include parents, local authorities, and community members, also hold a generally positive perception of the school's contingency plan, albeit slightly lower than internal stakeholders, with a grand weighted mean of 3.03. They acknowledge the school's preparedness for potential class

suspension or resumption due to COVID-19 resurgence and the inclusion of distance learning modalities. External stakeholders recognize that the school has considered alternative education methods to ensure that students' learning experiences are not disrupted in the face of challenges. This positive perception indicates that external stakeholders trust the school's commitment to providing education even in uncertain times.

Both internal and external stakeholders perceive the school's contingency plan positively, indicating that the school has taken proactive steps to address potential disruptions caused by COVID-19 resurgences. For internal stakeholders, the positive perception underscores the importance of maintaining and regularly updating the contingency plan.

Effective communication and training on the plan's implementation should be in place to ensure that everyone in the school community is well-prepared for potential challenges. External stakeholders' recognition of the contingency plan demonstrates a level of trust in the school's ability to adapt to changing circumstances. The school should continue to engage with external stakeholders, provide updates on the plan's execution, and seek their input to build stronger partnerships. Both internal and external stakeholders should be kept informed about the contingency plan and the school's readiness to respond to any potential disruptions, reinforcing confidence in the school's ability to provide a safe and uninterrupted learning environment.

This result affirms the study of Bautista et al. (2021), where distance learning has become the sole modality of the teaching and learning process in the Philippines due to the COVID-19 pandemic. The study found out that the majority of the respondents received adequate support from their respective schools in terms of capacity building, technical and data privacy matters, systems of information dissemination, and online learning management.

Table 2.2.1

Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic in Focusing on Teaching and Learning in Terms of Learning Resources

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1. There is available Self-Learning Modules (SLMs) in the event of a class suspension due to COVID- 19 resurgence.	3.10	More Applied	2.98	More Applied
2. The school has ensured that all teachers have the Teacher's Guide/Teachers' Manual on specific grade levels and learning areas that they are handling.	3.06	More Applied	3.06	More Applied
3. There is available Weekly Learning Plan (WLP).	3.11	More Applied	3.00	More Applied
4. There are available textbooks and other learning resources.	3.09	More Applied	3.06	More Applied
Grand Mean	**3.09**	**More Applied**	**3.03**	**More Applied**

Legend:
3.26 - 4.00 Most Applied ***(MA)***
2.51 - 3.25, More Applied ***(MRA)***

*1.76 – 2.50, Moderately Applied **(MDA)***
*1.00- 1.75 Less Applied **(LA)***

In Table 2.2.1, which focuses on Learning Resources, both internal and external stakeholders expressed their views on various aspects of educational preparedness for face-to-face classes. The highest-rated statement among internal stakeholders was "Availability of Weekly Learning Plan (WLP)" with a weighted mean score of 3.11, indicating a strong emphasis on structured planning for in-person learning. External stakeholders, on the other hand, prioritized "Availability of Textbooks and other Learning Resources" with a weighted mean score of 3.06, underscoring the importance of tangible learning materials. However, both groups rated "Availability of Self-Learning Modules (SLMs) in the event of a class suspension" the lowest, with weighted mean scores of 3.09 for internal stakeholders and 2.98 for external stakeholders, implying that more attention may be needed in this area.

The emphasis on Weekly Learning Plans (WLP) underscores the importance of structured planning for in-person learning, highlighting the necessity of comprehensive plans to guide both teachers and students. Pentang (2021) reinforces this, emphasizing the need for teachers to employ current pedagogy for effective lesson delivery. Despite pandemic challenges, teachers support students through module creation, as noted by Malipot (2020).

However, Malipot also highlights issues like material costs and late printing demands. To address these challenges, schools should prioritize comprehensive weekly plans and ensure access to physical and digital resources for effective teaching and learning. This holistic approach integrates structured planning, pedagogical strategies, and resource accessibility, crucial for navigating the complexities of pandemic-era education.

Table 2.2.2

Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic in Focusing on Teaching and Learning in Terms of Face-to-Face Classes

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
5. The arrival, breaks, and dismissal time are staggered to avoid crowding of learners in the school premises.	3.12	More Applied	2.98	More Applied
6.The school has developed a teaching schedule that follows the minimum contact time for teaching and learning.	3.06	More Applied	3.06	More Applied
7.The school has ensured that learning remediation/intervention is part of the regular class schedule and daily teaching time.	3.10	More Applied	2.98	More Applied
8.The school has ensured that the class size in standard number of 40 and below.	3.06	More Applied	3.06	More Applied

9.The school has comprehensively profiled learners who participated in the progressive expansion of the face-to-face classes.	3.11	More Applied	2.99	More Applied
Grand Mean	**3.09**	**More Applied**	**3.01**	**More Applied**

Legend:
3.26 - 4.00 Most Applied ***(MA)***
2.51 - 3.25 More Applied ***(MRA)***
1.76 – 2.50 Moderately Applied ***(MDA)***
1.00- 1.75 Less Applied ***(LA)***

In Table 2.2.2, concerning Face-to-Face Classes, stakeholders assessed various operational aspects. Internal stakeholders highlighted "Arrival, breaks, and dismissal time are staggered" as crucial, with a weighted mean score of 3.12, indicating the importance of crowd control measures. External stakeholders, with a weighted mean score of 3.03, found "The school
has developed a teaching schedule" as a key consideration. However, both groups placed lower importance on "The school has ensured that the class size is standard," which received weighted mean scores of 3.10 and 2.98, respectively, suggesting a need for more attention to class size management.

Stakeholders recognize the significance of crowd control measures, staggered schedules, and optimized class sizes to ensure the safety of students and staff during face-to-face classes. Schools should prioritize these aspects to minimize the risk of virus transmission. As guided by DM. No. 30, s. (2022), The learners' engagement in the teaching-learning process needs to be considered in the context of the face-to-face teaching and learning process. Designing and developing productive learning experiences exposes learners to most learning opportunities.

Table 2.2.3

Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic in Focusing on Teaching and Learning in Terms of Teacher's Support

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
10. The school has the Provision of School-Based Learning Action Cells (LAC) sessions to ensure the ability of teachers to deliver relevant teaching and learning strategies and ensure continuity of learning through a combination of distance learning and face-to-face classes.	3.10	More Applied	3.06	More Applied
11. The school has conduct coaching, mentoring, and relevant training in facilitating blended learning approach.	3.15	More Applied	2.99	More Applied

12. The school has conducted an orientation on the implementation of the Most Essential Learning Competencies (MELCs) included in their budget of work during the face-to-face classes.	3.08	More Applied	3.07	More Applied
13.The school has conducted an orientation on the observance of academic ease and provision of flexibility to learners in managing face-to-face classes.	3.14	More Applied	2.98	More Applied
Grand Mean	**3.12**	**More Applied**	**3.03**	**More Applied**

Legend:
3.26 - 4.00 Most Applied ***(MA)***
2.51 - 3.25 More Applied ***(MRA)***
1.76 – 2.50 Moderately Applied ***(MDA)***
1.00- 1.75 Less Applied ***(LA)***

Table 2.2.3 addresses teacher's support, with internal stakeholders assigning the highest rating to "Coaching, mentoring, and training relevant in facilitating a blended learning approach," earning a weighted mean score of 3.15. This underscores the significance of teacher development. External stakeholders also prioritize professional development but assign slightly lower importance, with a weighted mean score of 3.03 for "Provision of School-Based Learning Action Cells (LAC) sessions." Meanwhile, both groups perceive "Orientation on the observance of academic ease and provision of flexibility to learners" as less critical, with weighted mean scores of 3.14 for internal stakeholders and 2.98 for external stakeholders.

The emphasis on coaching, mentoring, and training for teachers, especially in facilitating blended learning, signifies the importance of ongoing professional development. This highlights the need for investment in training programs to equip teachers with skills for effective hybrid teaching methods, ensuring they can adapt to evolving educational needs. Additionally, balancing academic rigor with learners' well-being is crucial for both internal and external stakeholders, emphasizing the importance of flexibility and academic ease.

This focus on teacher development aligns with the findings of Makore and Shukuru (2019), who emphasized that investing in teachers is key to improving education quality. They highlighted the pivotal role of a skilled teaching force in ensuring quality education within the education system.

Moreover, Swaleha (2018) concluded that sustaining teachers' interest and commitment requires proper information, motivation, and supervision. This underscores the importance of providing teachers with support and guidance to maintain their enthusiasm and dedication to their roles and responsibilities. Therefore, investing in teacher development and support systems is essential for enhancing education quality and fostering a positive learning environment.

Table 2.3.1

Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic in Well–Being Protection in Terms of School Disinfection and Sanitation

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1.The school has ensured that the available sanitation and disinfection materials are approved by the Philippine Food and Drug Administration (FDAI).	3.08	More Applied	3.12	More Applied
2.There is available of hand-sanitizers/alcohol-based solutions/other disinfectants in restrooms.	3.17	More Applied	2.98	More Applied
3.There is available hand-sanitizers/alcohol-based solutions/other disinfectants in classroom.	3.08	More Applied	3.07	More Applied
4.There is available disinfectant or hand-sanitizers/alcohol-based solutions/other in entrance /exit point.	3.14	More Applied	2.98	More Applied
Grand Mean	**3.12**	**More Applied**	**3.04**	**More Applied**

Legend:
3.26 - 4.00 Most Applied ***(MA)***
2.51 - 3.25 More Applied ***(MRA)***
1.76 – 2.50 Moderately Applied ***(MDA)***
1.00- 1.75 Less Applied ***(LA)***

Table 2.3.1 centers on School Disinfection and Sanitation. Internal stakeholders underscored the importance of "Availability of hand sanitizers/alcohol-based solutions/other disinfectants in restrooms" with a weighted mean score of 3.17, emphasizing the need for hygiene measures. External stakeholders assigned greater importance to "The school has ensured that the available sanitation and disinfection materials are approved by the Philippine Food and Drug Administration (FDA)," earning a weighted mean score of 3.12. However, both groups rated "Availability of hand sanitizers/alcohol-based solutions/other disinfectants in the classroom" and "Availability of hand sanitizers/alcohol-based solutions/other disinfectants in the entrance/exit point" lower, with weighted mean scores ranging from 2.98 to 3.08, indicating room for improvement in these areas.

The emphasis on sanitation and hygiene measures is evident, focusing on ensuring approved disinfectants, especially in restrooms. Schools should maintain rigorous sanitation

protocols, ensuring the ready availability of alcohol-based solutions. Additionally, enhancing the availability of these materials in classrooms and entrance/exit points is essential for maintaining a safe learning environment.

Furthermore, Claire and Lindsay (2020) suggested that, in addition to requiring mask use and body temperature monitoring with a mobile app or the use of a contactless thermometer at school entrances, schools in Taiwan and Hong Kong should also be mandated to use plastic barriers in classrooms to increase student separation.

Table 2.3.2

Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic in Well – being Protection in Terms of COVID-19 Case Management

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1.The school has identified strategies to detect COVID- 19 among the learners.	3.10	More Applied	3.13	More Applied
2.The school has identified strategies to isolate and manage learners with COVID- 19 symptoms.	3.13	More Applied	2.98	More Applied
3.The school has ensured availability and maintained the provision of basic mental health and psychosocial support, as well as guidance and counselling services to learners, teachers, and personnel for the entire school year.	3.13	More Applied	3.08	More Applied
4.The school has established a clear procedure of referral system for COVID-l9 confirmed and suspected personnel and learners.	3.10	More Applied	2.98	More Applied
5. The school has established a clear contact tracing and quarantine system for close contacts of COVID- 19 confirmed positive cases.	3.14	More Applied	3.06	More Applied
Grand Mean	**3.12**	**More Applied**	**3.05**	**More Applied**

Legend:
*3.26 - 4.00 Most Applied **(MA)***
*2.51 - 3.25 More Applied **(MRA)***
*1.76 – 2.50 Moderately Applied **(MDA)***
*1.00- 1.75 Less Applied **(LA)***

Table 2.3.2 addresses COVID-19 Case Management, both internal and external stakeholders agreed on the significance of "The school has established a clear contact tracing and quarantine system," with weighted mean scores of 3.14 and 3.06, respectively. These scores indicate a strong emphasis on preparedness for potential COVID-19 cases. However, they rated "The school has identified strategies to isolate and manage learners with COVID-19 symptoms" lower, with weighted mean scores of 3.13 for internal stakeholders and 2.98 for external stakeholders, suggesting the need for more robust protocols in this area.

Both internal and external stakeholders prioritize the establishment of clear contact tracing and quarantine systems, highlighting the need for schools to have robust protocols in place to respond promptly to potential COVID-19 cases. Strategies for isolating and managing learners with symptoms should be strengthened to ensure the safety of the school community.

Principals and educational personnel are encouraged to implement strategies, such as establishing routines, fostering good communication, and providing student support, to strengthen and restore a learning environment that may be considered "wounded" (Halladay Goldman et al., 2020).

Table 2.3.3

Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic in Well – being Protection in Terms of Including the Most Marginalized

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1.The school has established a mechanism in identifying learners who are most vulnerable and disadvantaged in terms of access to learning.	3.13	More Applied	2.98	More Applied
2.The school has developed learning strategies to cater the needs of the marginalized learners, such as modules in Braille, mother- languages, and usage of Filipino Sign Language.	3.14	More Applied	3.08	More Applied
3.The school has ensured participation in school-based services in which includes but is not limited to feeding and nutrition programs, immunizations, Mental Health and psychosocial Support, prevention of Violence against Children (VAC).	3.13	More Applied	2.98	More Applied
4.The school has established close coordination with the Department of Social Welfare and Development (DSWD) Case Managers of those learners who are marginalized.	3.12	More Applied	3.06	More Applied
Grand Mean	**3.13**	**More Applied**	**3.03**	**More Applied**

Legend:
*3.26 - 4.00 Most Applied **(MA)**2.51 - 3.25, More Applied **(MRA)**1.76 – 2.50, Moderately Applied **(MDA)**1.00- 1.75 Less Applied **(LA)***

Table 2.3.3 illustrates the significance of addressing the needs of the most marginalized, as seen in the item "The school has developed learning strategies to cater to the needs of marginalized learners," with weighted mean scores of 3.14 for internal stakeholders and 3.08 for external stakeholders. However, both groups somewhat downplayed the importance of "The school has established a mechanism for identifying learners who are most vulnerable and

disadvantaged," with weighted mean scores of 3.13 and 2.98, respectively. This underscores the need to further address the needs of vulnerable students.

Stakeholders recognize the importance of addressing the needs of marginalized learners, including those with disabilities or vulnerabilities. Schools should continue developing inclusive learning strategies and mechanisms for identifying and supporting these students. This includes providing materials in accessible formats, such as Braille or sign language, and collaborating with external agencies to offer essential services.

Similarly, the Department of Education considers well-being in the implementation of face-to-face teaching, as indicated in D.M. No. 30, s. 2022. This directive is adopted throughout all public secondary schools in the context of DepEd, aiming to protect the well-being of students and teachers nationwide against COVID-19. It includes indicators such as school disinfection, sanitation, and COVID-19 case management, as well as addressing the needs of the most marginalized.

The teaching and learning process takes on a different shape in times of crisis. When disasters and crises, whether artificial or natural, occur, schools must be resilient and find new ways to continue teaching and learning activities (Chang-Richards et al., 2013).

Table 2.4

Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic in terms of School-Community Coordination

Indicators	Internal Stakeholder		External Stakeholder	
	Weighted Mean	Verbal Interpretation	Weighted Mean	Verbal Interpretation
1.The school has developed a plan for the coordination with the Barangay Local Government Unit (BLGU) or the Barangay Health Emergency Response Team TBHERT) in ensuring that protocols are observed properly.	3.13	More Applied	2.97	More Applied
2. The school has coordinated with their respective local government units the implementation of routine school-based immunization (SBI) and other school health-related services, such as but not limited to deworming and weekly iron-folate acid supplementation.	3.15	More Applied	3.10	More Applied
3.In collaboration with their local health offices, the school has developed intensive health promotion campaign activities /support-policies to maintain optimal health seeking behaviors of learners and other community members.	3.13	More Applied	2.96	More Applied
Grand Mean	**3.14**	**More Applied**	**3.01**	**More Applied**

Legend:
3.26 - 4.00 Most Applied ***(MA)***
2.51 - 3.25 More Applied ***(MRA)***
1.76 – 2.50 Moderately Applied ***(MDA)***
1.00- 1.75 Less Applied ***(LA)***

In relation to Table 2.4 (School-Community Coordination), internal stakeholders emphasized the importance of "The school has coordinated with their respective local government units for school health-related services," earning a weighted mean score of 3.15. This underscores the significance of inter-agency collaboration. External stakeholders also prioritized coordination but rated "The school has developed a plan for coordination with the Barangay Local Government Unit (BLGU)" slightly lower, with a weighted mean score of 2.97. Nonetheless, both groups acknowledged the importance of collaboration and assigned higher ratings to these statements compared to other aspects in this table, which received weighted mean scores ranging from 2.96 to 3.13.

Inter-agency collaboration, especially concerning health-related services and coordination with local government units, is highly valued. Schools should strengthen partnerships with local
authorities and health organizations to ensure the effective implementation of health protocols, immunization programs, and support services for learners.

Coordination, as a fundamental function of management, ensures that various departments and groups within an organization work harmoniously towards shared objectives. It fosters unity of action among employees and departments, facilitating efficient task execution and ultimately contributing to the achievement of organizational goals (Topper, 2019). Similarly, when families, schools, and community institutions collaborate and coordinate their efforts, they collectively benefit in various ways.

In the context of education, coordination among families, schools, and community institutions is crucial for fostering a supportive learning environment and enhancing educational outcomes. When these stakeholders align their goals and strategies, everyone stands to gain. Schools receive informed support from families and community members, enabling them to better cater to the needs of students and provide a holistic education experience (Nageswaran, 2018). Families, in turn, have increased opportunities to actively contribute to their children's education, leading to greater engagement and academic success. Additionally, communities benefit from having an educated and responsible workforce, which can positively impact economic growth and social development.

In essence, just as coordination within organizations leads to improved efficiency and goal achievement, coordination among families, schools, and community institutions in the realm of education fosters collaboration, resource-sharing, and collective success for the benefit of all stakeholders involved.

Part III. Significant Difference on the Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic

Table 3.

Significant Difference on the Challenges Encountered by the Internal and External Stakeholders in the Implementation of Face-to-Face Classes After the Pandemic

				t-test for Equality of Means							
				t	df	Sig. (2-tailed)	Mean Differen	Std. Error	95% Confidence Interval of the		Remarks
									Lower	Upper	
On shared Responsibility	Equal variances	5.508	0.019	1.586	362	0.114	0.0660	0.0416	-0.0158	0.1478	Not Significant
	Equal variances			1.465	203	0.144	0.0660	0.0450	-0.0228	0.1548	Not Significant
On Work Arrangement	Equal variances	3.159	0.076	0.251	362	0.802	0.0095	0.0377	-0.0646	0.0836	Not Significant
	Equal variances			0.236	213	0.813	0.0095	0.0401	-0.0695	0.0885	Not Significant
On Classroom Layout and Structure	Equal variances	0.016	0.899	1.732	362	0.084	0.0544	0.0314	-0.0074	0.1161	Not Significant
	Equal variances			1.796	279	0.074	0.0544	0.0303	-0.0052	0.1139	Not Significant
On School Traffic Management	Equal variances	3.373	0.067	2.331	362	0.020	0.0503	0.0216	0.0079	0.0928	Significant
	Equal variances			2.277	236	0.024	0.0503	0.0221	0.0068	0.0939	Significant
On Protective Measure,Hygiene Practices and Safety Procedures	Equal variances	0.541	0.463	1.829	362	0.068	0.0294	0.0161	-0.0022	0.0610	Not Significant
	Equal variances not			1.843	257	0.066	0.0294	0.0160	-0.0020	0.0608	Not Significant
On Communication Strategy	Equal variances	2.125	0.146	1.713	362	0.087	0.0332	0.0194	-0.0049	0.0712	Not Significant
	Equal variances			1.669	234	0.096	0.0332	0.0199	-0.0060	0.0723	Not Significant
On Contigency Plan	Equal variances	0.137	0.712	-3.266	362	0.001	-0.1458	0.0446	-0.2336	-0.0580	Significant
	Equal variances			-3.556	316	0.000	-0.1458	0.0410	-0.2265	-0.0652	Significant
On Learnig Resources	Equal variances	10.969	0.001	3.630	362	0.000	0.0986	0.0272	0.0452	0.1521	Significant
	Equal variances			3.471	223	0.001	0.0986	0.0284	0.0426	0.1547	Significant
In-person Classes	Equal variances	1.686	0.195	-2.640	362	0.009	-0.2265	0.0858	-0.3953	-0.0578	Significant
	Equal variances			-2.512	220	0.013	-0.2265	0.0902	-0.4042	-0.0488	Significant
Teacher's Support	Equal variances	23.942	0.000	3.663	362	0.000	0.2978	0.0813	0.1379	0.4577	Significant
	Equal variances			3.409	207	0.001	0.2978	0.0874	0.1256	0.4700	Significant
On School disinfection and Sanitation	Equal variances	3.816	0.052	2.108	362	0.036	0.0638	0.0303	0.0043	0.1233	Significant
	Equal variances			2.050	233	0.041	0.0638	0.0311	0.0025	0.1251	Significant
On Covid-19 Case Management	Equal variances	0.133	0.716	-2.505	362	0.013	-0.0573	0.0229	-0.1023	-0.0123	Significant
	Equal variances			-2.491	248	0.013	-0.0573	0.0230	-0.1026	-0.0120	Significant
On Including the Most Marginalized	Equal variances assumed	24.293	0.000	3.665	362	0.000	0.2978	0.0813	0.1380	0.4576	Significant
	Equal variances			3.410	207	0.001	0.2978	0.0873	0.1256	0.4700	Significant
On School Community Coordination	Equal variances assumed	3.696	0.055	-2.058	362	0.040	-0.1738	0.0845	-0.3400	-0.0077	Not Significant
	Equal variances			-1.941	215	0.054	-0.1738	0.0895	-0.3503	0.0027	Not Significant

Table 3 presents significant differences between Internal and External Stakeholders regarding the challenges encountered.

The analysis of challenges faced by both internal and external stakeholders in various aspects of the school environment reveals noteworthy findings. Specifically, significant differences exist between these stakeholder groups in specific areas, including school traffic management ($p = 0.020$), contingency planning ($p < 0.001$), learning

resources ($p < 0.001$), in-person classes ($p = 0.009$), teacher's support ($p < 0.001$), school disinfection and sanitation ($p = 0.036$), Covid-19 case management ($p = 0.013$), and addressing the needs of the most marginalized ($p < 0.001$). These differences suggest that tailored strategies and interventions may be necessary to address the unique challenges faced by internal and external stakeholders in these domains.

Conversely, in areas such as shared responsibility, work arrangement, classroom layout and structure, communication strategy, and school community coordination, no significant differences were found. This indicates that both stakeholder groups perceive similar challenges in these aspects of the school environment. These insights can guide educational institutions in developing targeted solutions to enhance stakeholder satisfaction and overall school performance.

In essence, the analysis implies significant differences between internal and external stakeholders in several areas, necessitating different approaches and solutions to address the challenges faced by these stakeholder groups. However, in other areas such as shared responsibility, work arrangement, classroom layout and structure, communication strategy, and school community coordination, no significant differences were observed between the two stakeholder groups.

Part IV. Significant Difference on the Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic

Table 4.

Significant Difference on the Coping Strategies Applied by the Internal and External Stakeholders to Address the Challenges Encountered in the Implementation of Face-to-Face Classes After the Pandemic

				Equality of Means							
				t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		Remarks
									Lower	Upper	
On shared Responsibility	Equal variances assumed	5.151	0.024	0.742	362	0.4583	0.0257	0.0346	-0.0424	0.0938	Not Significant
	Equal variances not assumed			0.791	299.631	0.4295	0.0257	0.0325	-0.0382	0.0896	Not Significant
On Work Arrangement	Equal variances assumed	9.249	0.003	1.516	362	0.1303	0.0538	0.0355	-0.0160	0.1235	Not Significant
	Equal variances not assumed			1.590	287.020	0.1129	0.0538	0.0338	-0.0128	0.1203	Not Significant
On Classroom Layout and Structure	Equal variances assumed	7.643	0.006	1.743	362	0.0821	0.0579	0.0332	-0.0074	0.1231	Not Significant
	Equal variances not assumed			1.808	278.304	0.0717	0.0579	0.0320	-0.0052	0.1209	Not Significant
On School Traffic Management	Equal variances assumed	5.554	0.019	1.902	362	0.0580	0.0637	0.0335	-0.0022	0.1295	Not Significant
	Equal variances not assumed			1.938	265.190	0.0537	0.0637	0.0329	-0.0010	0.1284	Not Significant
On Protective Measure,Hygience Practices and Safety Procedures	Equal variances assumed	9.077	0.003	2.048	362	0.0413	0.0677	0.0331	0.0027	0.1328	Not Significant
	Equal variances not assumed			2.127	279.492	0.0343	0.0677	0.0318	0.0050	0.1304	Not Significant
On Communication Strategy	Equal variances assumed	14.074	0.000	2.188	362	0.0293	0.0731	0.0334	0.0074	0.1387	Not Significant
	Equal variances not assumed			2.280	282.169	0.0233	0.0731	0.0320	0.0100	0.1361	Not Significant
On Contigency Plan	Equal variances assumed	14.449	0.000	2.180	362	0.0299	0.0764	0.0351	0.0075	0.1454	Not Significant
	Equal variances not assumed			2.296	290.441	0.0224	0.0764	0.0333	0.0109	0.1419	Not Significant
On Learnig Resources	Equal variances assumed	10.015	0.002	1.883	362	0.0606	0.0640	0.0340	-0.0029	0.1308	Not Significant
	Equal variances not assumed			1.970	285.585	0.0498	0.0640	0.0325	0.0001	0.1278	Not Significant
In-person Classes	Equal variances assumed	14.874	0.000	2.224	362	0.0268	0.0761	0.0342	0.0088	0.1433	Not Significant
	Equal variances not assumed			2.353	293.873	0.0193	0.0761	0.0323	0.0124	0.1397	Not Significant
Teacher Support	Equal variances assumed	17.930	0.000	2.645	362	0.0085	0.0892	0.0337	0.0229	0.1554	Not Significant
	Equal variances not assumed			2.780	288.624	0.0058	0.0892	0.0321	0.0260	0.1523	Not Significant
On School disinfection and Sanitation	Equal variances assumed	13.202	0.000	2.447	362	0.0149	0.0792	0.0324	0.0156	0.1429	Not Significant
	Equal variances not assumed			2.519	272.657	0.0124	0.0792	0.0315	0.0173	0.1412	Not Significant
On Covid-19 Case Management	Equal variances assumed	9.971	0.002	2.371	362	0.0183	0.0774	0.0327	0.0132	0.1417	Not Significant
	Equal variances not assumed			2.416	265.458	0.0163	0.0774	0.0321	0.0143	0.1406	Not Significant
On Including the Most Marginalized	Equal variances assumed	22.459	0.000	3.070	362	0.0023	0.1047	0.0341	0.0376	0.1717	Not Significant
	Equal variances not assumed			3.230	289.758	0.0014	0.1047	0.0324	0.0409	0.1684	Not Significant
On School Community Coordination	Equal variances assumed	41.568	0.000	3.676	362	0.0003	0.1273	0.0346	0.0592	0.1954	Not Significant
	Equal variances not assumed			4.054	325.561	0.0001	0.1273	0.0314	0.0655	0.1890	Not Significant

Table 4 presents the significant differences between internal and external stakeholders in coping strategies.

The analysis of coping strategies between internal and external stakeholders across various categories reveals interesting findings. The T-test for independent samples was utilized in each category to assess the homogeneity of variances between the two groups. Unequal variances were observed in some instances, indicating potential variability in responses. However, despite these variations, the T-tests for equality of weighted means consistently show no significant difference between internal and external stakeholders in coping strategies. These results imply that both internal and external stakeholders adopt similar coping mechanisms when faced with challenges associated with the examined categories. Whether it pertains to shared responsibility, work arrangements, classroom layout, or any other aspect, the coping strategies employed by these stakeholder groups do not differ significantly. This suggests a level of coherence in their responses and highlights the importance of collaboration and unity in addressing the challenges they face.

The implications of these findings are twofold. Firstly, they indicate that both internal and external stakeholders within the context being studied have a similar understanding and approach when coping with various challenges. This alignment in coping strategies suggests a level of consensus and shared goals, which can be beneficial for coordinated efforts in managing and mitigating the challenges at hand. Secondly, the presence of unequal variances in some categories, as identified by the T-test, highlights the importance of recognizing and addressing potential variations in stakeholder responses. While these variations may not lead to significant differences in coping strategies, they could point to specific areas that require more attention or tailored interventions. Therefore, stakeholders and decision-makers should remain attentive to these nuances to ensure a well-informed and targeted approach to addressing challenges and maintaining a harmonious working relationship between internal and external stakeholders.

Part V. School Learning Recovery and Continuity Plan

The results presented in the previous section have paved the way for the development of the School Learning Recovery and Continuity Plan. This proposed plan aims to address the challenges encountered by the internal and external stakeholders, providing a framework to guide schools in addressing learning gaps resulting from pandemic-related disruptions. School Learning Recovery and Continuity Plans are designed to reflect the specific contexts and situations of schools and community learning centers, guiding them to better respond to the learning needs of students. The plan's objective is to ensure the recovery of student learning loss exacerbated by the pandemic through resilient, responsive, and efficient governance, management, and systems.

The Proposed School Learning Recovery and Continuity Plan take into consideration the provisions stipulated in the National Learning Recovery Program. Complete details of the plan are appended in Appendix A.

Conclusions

The researcher arrived at the following conclusions:

1. Internal and external stakeholders perceive challenges in shared responsibility, work arrangements, classroom layout, school traffic management, protective measures, hygiene practices, safety procedures, and communication strategy. Contingency planning also presents challenges. Focusing on Teaching and Learning:
   learning resources, in-person classes, teacher's support, well-being and protection, school disinfection and sanitation, COVID-19 case management, and inclusion of marginalized students are viewed as challenging areas.
2. Both internal and external stakeholders see more challenging in shared responsibility, work arrangements, classroom layout, school traffic management, protective measures, hygiene practices, safety procedures, communication strategy, contingency planning, and focusing on teaching and learning. This highlights potential areas for improvement and innovation. Well-being and Protection: presents Challenges in school disinfection and sanitation, COVID-19 case management, inclusion of marginalized students, and school-community coordination.
3. The null hypothesis that there is no significant difference on the challenges encountered by the internal and external stakeholders in the implementation of face-to-face classes after the pandemic is rejected.
4. The null hypothesis that there is no significant difference on the coping strategies applied by the internal and external stakeholders to address the challenges encountered in the implementation of face-to-face classes after the pandemic is accepted.
5. Based on the findings of the study, the researcher developed a comprehensive School Learning Recovery and Continuity Plan to address the specific needs identified. The first step would involve conducting thorough assessments to pinpoint learning gaps and areas where students require additional support. This assessment process should incorporate academic evaluations, surveys, and feedback from teachers, learners, and parents.

Recommendations

Based on the findings and conclusions drawn from this study, the following recommendations are hereby offered:

1. The findings reveal that managing school operations poses challenges for both internal and external stakeholders. Shared responsibility, work arrangements, classroom layout, school traffic management, protective measures, hygiene

practices, safety procedures, communication strategy, and contingency planning are identified as areas of concern. In focusing on Teaching and Learning, challenges are noted in learning resources, in-person classes, teacher's support, well-being and protection, school disinfection and sanitation, COVID-19 case management, and the inclusion of marginalized students. Consequently, it is recommended to improve communication strategies addressing challenges related to shared responsibility, work arrangements, and contingency planning. Establishing regular communication channels and feedback mechanisms is also advised.

2. Managing School Operations is perceived as challenges by both internal and external stakeholders in areas such as shared responsibility, work arrangements, classroom layout, school traffic management, protective measures, hygiene practices, safety procedures, communication strategy, contingency planning, and focusing on teaching and learning. Areas needing improvement and innovation include well-being and protection, particularly in school disinfection and sanitation, COVID-19 case management, inclusion of marginalized students, and school-community coordination. Recommendations include exploring innovative ways to enhance classroom layouts and school traffic management for improved efficiency and safety.
3. Significant differences exist among school stakeholders in their perceptions of challenges, particularly in school traffic management, contingency planning, learning resources, in-person classes, teacher's support, school disinfection and sanitation, COVID-19 case management, and inclusion of marginalized students. Customized strategies are recommended to address these differences, tailoring communication and intervention plans to specific concerns.
4. Variations in variances are observed, with no significant difference in coping strategies between internal and external stakeholders across various categories. This suggests a unified approach to facing challenges and underscores the importance of collaboration and unity in addressing shared concerns. Recommendations include encouraging collaboration, coordination, and unity among all stakeholders.
5. Considering that this study is limited to the challenges encountered and coping strategies applied by the internal and external stakeholders to address the challenges encountered in the implementation of face-to-face classes after the pandemic, future researchers may study the effectiveness of these strategies.

Compliance with Ethical Standards

The researcher commits to respect the data privacy laws and other rules indicated in the data privacy agreement memorandum from the Department of Education. All contacts will also be established prior to the study's conduct. The health and safety of the stakeholders as respondents will be taken into account by effective contact with the local IATF and adherence to safe health standards. In addition, accurate data interpretation with total impartiality will be maintained in order to enhance the study's standard utilizing the confirmability approach or respondent validation via summary of results if they agree

with any of the likely emerging viewpoints. Finally, the researcher is liable for any issues that may occur about the participants, gathered data, or the integrity of the study.

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CHALLENGES ENCOUNTERED BY MATHEMATICS TEACHERS IN THE DEVELOPMENT OF CRITICAL THINKING SKILLS AMONG HIGH SCHOOL LEARNERS

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ABSTRACT

This study explores the challenges faced by mathematics teachers in fostering critical thinking skills among high school learners. Utilizing qualitative research methods, including in-depth interviews with ten mathematics teachers, the study identifies several obstacles hindering critical thinking development: learners' lack of prior knowledge, poor reading and comprehension skills, indifference towards math, technology dependency, and passivity. To address these challenges, teachers employ various strategies such as building confidence, encouraging reading, simplifying lessons, leveraging technology, and involving other individuals like parents and peers. Insights from the study highlight the transformative potential of critical thinking, emphasizing its role in problem-solving, decision-making, and independent learning. Recommendations include integrating critical thinking into teacher training, promoting active learning, and providing ongoing support for teachers. Overall, this study underscores the importance of nurturing critical thinking skills to empower learners for success in today's complex world.

Keywords: *Critical Thinking, Mathematics Education, Teaching Strategies*

INTRODUCTION

With the implementation of the K-12 Program in the basic educational system of the country, it is critical and there is an urgent need to enhance quality education in the elementary and high school levels. Teaching learners to become critical thinkers is a common role of education today. Learners can learn to think well if the school's focus is on teaching them how to do so. This is one among its immediate goals.

Critical thinking is one of the two main objectives in mathematics that forms the basis of mathematical learning. Learners typically engage in critical thinking when they question rather than accepting information at face value. The use of critical thinking results in learnable, mastered abilities. It is the logical analysis of concepts, hypotheses, principles, arguments, conclusions, problems, assertions, convictions, and behaviors. This objective will be met via a well-structured and demanding curriculum, a clearly defined set of advanced abilities and procedures, acceptable attitudes and values, and the right resources, considering the various learning environments of Filipino learners (K–12 Curriculum Guide MATHEMATICS).

The development of critical thinking skills among high school learners in mathematics education is influenced by several key factors. Notably, scholars such as Lipman (2003), Awasthi (2016), and Marzano (2007) emphasize the challenges faced by mathematics teachers, including learners' lack of prior knowledge, poor reading comprehension skills, and indifference towards mathematics, technological dependence, and passivity. These challenges are compounded by learners' difficulty in comprehending mathematical concepts within texts, as articulated by the participants. Learners need to know how to think instead of what to think. This is initiated through various teaching strategies; providing skills like critical thinking; assessment methods; and adopting new ways of teacher's preparation (Lagamon, 2014). To improve learners' critical thinking, knowledge, skills, and dispositions, educators can develop instructional pedagogy with purposeful learning activities that encourage critical thinking abilities (Ikala, 2012).

Moreover, the review underscores the pivotal role of educators in addressing these challenges through various strategies, including building learners' confidence, simplifying lessons, utilizing technology, and involving other stakeholders such as parents and peers. This comprehensive literature review provides a nuanced understanding of the multifaceted nature of the obstacles faced by mathematics teachers in fostering critical thinking skills among high school learners and offers valuable insights into effective pedagogical approaches to mitigate these challenges.

In the classroom scenario, the researcher as a secondary mathematics teacher at Jalandoni Memorial National High School for five years now has identified concerns encountered in the context of teaching and learning process which present critical thinking as a determining factor. The term "critical thinking" can cause different contexts. In literature and other resources, various definitions are available, which seek to illuminate the meaning of the term. The researcher is still uncertain of how to define and view critical

thinking skills since it can present us with a variety of ideas and opinions among people. In connection with these, the main concern of the presented research is to determine whether mathematics teachers' ideas regarding the content of the concept of critical thinking are consistent.

The researcher has also noted that learners have unfavorable reaction towards mathematics as a subject. Many learners find mathematics subject difficult, meaningless, and unappealing, which lead them to underdevelop their critical thinking skills, develop unfavorable attitudes toward the subject and eventually make the teachers deal with various challenges that needed to be handled well in class. However, these are only mere observations and are not supported by scientific data. Thus, the researcher is prompted to conduct this study to determine how teachers view critical thinking skills; the challenges that they encountered; and how these challenges being handled by them at Jalandoni Memorial National High School for school year 2020–2021.

Research Questions

This study was conducted to determine the challenges encountered by mathematics teachers in the development of critical thinking skills among high school learners of Jalandoni Memorial National High School for school year 2020–2021.

Specifically, this study sought answers to the following research questions:

1. How do teachers view critical thinking skills?
2. What are the challenges encountered by mathematics teachers in the development of critical thinking skills among high school learners?
3. How do these challenges being handled by mathematics teachers in the development of critical thinking skills among high school learners?

METHODOLOGY

The research methodology employed in this comprehensive study on the challenges faced by mathematics teachers in fostering critical thinking skills among high school learners utilized a qualitative phenomenological approach, integrating in-depth interviews with purposively selected teachers from Jalandoni Memorial National High School for School Year 2020–2021, complemented by thematic analysis to discern recurring themes, aligning with Creswell's emphasis on phenomenology as a qualitative research approach (Creswell, 2013).

Participants

The participants of the study were the ten (10) purposively selected mathematics teachers teaching Mathematics subject at Jalandoni Memorial National High School for school year 2020–2021.

Instruments of the Study

The research instrument employed in this study was a researcher-made interview schedule, comprising three questions aligned with the study's objectives. Data gathering and documentation were facilitated using voice and video recorders, contingent upon participants' consent.

Procedure

The data gathering procedures for the study involved obtaining consent from the University of Iloilo PHIMNA Education Network Graduate School and the Principal of Jalandoni Memorial National High School, as well as individual participants. The researcher conducted interviews in compliance with minimum health protocols mandated by various authorities amidst the pandemic. In-depth interviews were conducted using voice and video recorders, with participants seated together with the researcher to capture their responses. All collected data were consolidated after the series of interviews.

RESULTS

This section presents the descriptive-qualitative analyses of the data gathered to determine the challenges encountered by mathematics teachers in the development of critical thinking skills among high school learners of Jalandoni Memorial National High School for school year 2020–2021.

Teachers' View of Critical Thinking Skills

Mathematics teachers at Jalandoni Memorial National High School perceive critical thinking skills as encompassing logical reasoning and decision making, processing, and sharing of ideas, reflective and independent thinking, deep understanding, and thinking outside the box. They believe critical thinking involves understanding logical connections between ideas, problem solving, self-reflection, and creative thinking. These skills are seen as crucial for making informed decisions, solving problems systematically, and fostering deeper understanding in mathematics education.

Challenges Encountered by Mathematics Teachers in the Development of Critical Thinking Skills among High School Learners

Mathematics teachers encounter several challenges in developing critical thinking skills among high school learners, including learners' lack of prior knowledge, poor reading and comprehension skills, indifference toward the math subject, dependence on technology leading to digital distractions, and passive learning attitudes. These challenges impede the awakening of critical thinking skills essential for effective learning and problem- solving.

How Mathematics Teachers Handle Challenges in the Development of Learners' Critical Thinking Skills

Mathematics teachers address challenges in developing learners' critical thinking skills by encouraging confidence, emphasizing reading comprehension, simplifying lessons, leveraging technology, and fostering interactions with peers, family, and tutors. These approaches aim to empower students and facilitate deeper understanding and application of critical thinking skills.

DISCUSSION

The comprehensive analysis of the challenges encountered by mathematics teachers in developing critical thinking skills among high school learners reveals a multifaceted landscape. Learners' struggle with a range of issues, including poor prior knowledge, reading comprehension deficits, disinterest in mathematics, technological dependence, and passive learning tendencies. To tackle these hurdles, teachers employ diverse strategies. They focus on instilling confidence in learners, encouraging extensive reading, simplifying lessons to enhance relatability, leveraging technology as a teaching aid, and involving various stakeholders such as family members, peers, and tutors. With these diverse teaching strategies, mathematics teachers aim to create conducive learning environment in which critical thinking abilities may develop, ultimately equipping learners with the ability to solve challenging problems and think analytically both within and outside of the classroom.

Conclusions

In conclusion, this study sheds light on the challenges faced by mathematics teachers in nurturing critical thinking skills among high school learners, emphasizing the significance of this endeavor for both teachers and learners. Through in-depth interviews and thematic analysis, it became evident that learners' lack of prior knowledge, poor reading comprehension, indifference toward math, dependence on technology, and passive learning attitudes pose significant hurdles. However, teachers employ various strategies like building confidence, promoting reading, simplifying lessons, integrating technology, and fostering relationships to address these challenges. Insights gleaned underscore the transformative potential of critical thinking, empowering learners to discern, analyze, and solve problems effectively. Recommendations put forth underscore the importance of integrating critical thinking development into teacher training, promoting active learning environments, and providing ongoing support and recognition for teacher. Ultimately, by emphasizing critical thinking, teachers can equip learners with essential life skills to effectively deal the challenges of modern life and contribute meaningfully to society.

Recommendations

In the light of the findings and insights arrived in this study, it is recommended that critical thinking needs to be constantly practiced as through this way, it will train learners how to think, interpret, analyze, and evaluate information that they receive. There is a dire need to promote active learning to produce learners who are independent in their way of thinking and learning. To sustain enthusiasm of the teachers using critical thinking skills, awards and recognition should be institutionalized. Teachers should not only focus on completing the learning competencies as stipulated by the Department of Education but to stress more on enhancing the learners' critical thinking ability in the classroom.

Similar studies related to critical thinking skills are encouraged by including learners, parents, and other subject teachers and to focus on learners' perspective on critical thinking and the ways they would want teachers to assist them in enhancing their critical thinking abilities.

Compliance with Ethical Standards

In conducting this study on the challenges encountered by mathematics teachers in the development of critical thinking skills among high school learners, ethical considerations were paramount. The participants' anonymity and confidentiality were strictly maintained throughout the research process, with their informed consent obtained before their involvement. Furthermore, their voluntary participation was emphasized, and they were assured of their right to withdraw from the study at any point without consequence. Additionally, efforts were made to minimize any potential harm or discomfort to the participants, and their responses were treated with respect and sensitivity. Finally, the research adhered to established ethical guidelines and principles, ensuring integrity, transparency, and accountability in all aspects of the study.

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CHALLENGES OF ELEMENTARY PRE-SERVICE TEACHERS OF THE SELECTED TEACHER EDUCATION INSTITUTIONS IN SAN PABLO CITY AMIDST THE PANDEMIC: A BASIS FOR AN ENHANCEMENT PLAN

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ABSTRACT

The shift to the new normal in education offers educators a significant opportunity to reinvent the future. Pre-service teachers are impacted by the pandemic's chaos. This study aims to determine the challenges experienced by elementary pre-service teachers during the COVID-19 pandemic. The study employed a phenomenological research approach, which comprised conducting virtual interviews and focus group discussions (FGD) with 15 participants from selected tertiary education institutions in the City of San Pablo. Based on the findings of this study, elementary pre-service teachers need to master the needs of teaching, a flexible style of understanding and principles, as well as the consequences of their experiences and tales as a part of the creation of their identities. The participants felt unprepared for the new phenomenon in education, but according to their experiences, they were able to utilize their potential by adapting to technology. The internet played a significant influence in the pre-service teachers' practicum, among other things that were discovered to affect their distance practice teaching. As a result, the researcher proposed an enhancement plan for student internship.

Keywords: *Challenges of Pre-service Teachers, Triangulation Method, Thematic Analysis, Internet Connection Fuels the New Set-up, Lack of Interaction*

INTRODUCTION

Amidst the COVID-19 pandemic, the pre-service teacher conducted their student teaching virtually due to the restrictions whereas there is a transition from traditional face- to-face to virtual. The usual practices of pre-service teachers are different apart from the new normal setup and force schools into a flow of learning that is full of complexities and limitations (Rasmitadila, et al., 2020). Furthermore, pre-service teachers mentioned that they mainly faced problems such as the lack of time exposure for live courses regarding the implementation; failure to establish communication with friends regarding the students; absence of internet connectivity regarding impossibility, sound problems regarding technical issues, and lack of communication regarding for the instructors (Ozudogru,2021).

As cited by, (Ozmantar & amp; Agac, 2021), the pre-service teachers also experienced adaptational gaps in the new normal of practice teaching because they already expected that they would have face-to-face practice teaching. This means that the preparation did not jibe with the new normal of practice teaching. Furthermore, it was found that pre-service teachers in one of the state universities in the Philippines struggled with lesson planning, classroom management, and the use of technology in their demonstration teaching.

In addition, according to (Dawson & Shand, 2019), mentorship aids pre-service teachers in overcoming the challenges they face in light of the pressures they face. She emphasized that mentor assistance helps pre-service teachers feel more confident and less isolated in their jobs. Pre-service teachers need to adapt instructional approaches based on the online modality because it is likely their students might face pandemic- similar situations or a plethora of academic and non-academic challenges in the future (Hill J., 2021).

Research Questions

This study aims to determine the Challenges of Elementary Pre-service Teachers Amidst the Pandemic in the Academic Year 2021-2022.

Specifically, it sought answers to the following questions:

1. What are the challenges of being elementary pre-service teachers?
2. What are the disadvantages and advantages of distance practice teaching?
3. How did the elementary pre-service teachers overcome the challenges during their practice teaching?
4. What are the strategies of pre-service used to overcome these challenges?
5. What is the recommended teaching enhancement plan for an internship?

METHODOLOGY

The study employed the phenomenological approach and experiential learning theory of Kolb. The participants of the study are elementary pre-service teachers who undergo their practice teaching program in the academic year 2021-2022 and are enrolled in the Bachelor of Elementary Education, which is randomly selected. Furthermore, the instrument used by the researcher is a researcher-made interview guide question that undergoes content validation from experts to get rid of loopholes and data biases. In collecting the data, the researcher gave a consent form to the participant and conducted a short briefing. Then, a summary of the collected data was carefully encoded and transcribed using NVivo, which was checked by a credible specialist. The triangulation method was applied in the process of the study, as was a thematic analysis after the data gathering.

RESULTS

The findings of this study are that elementary pre-service teachers need to master the needs of teaching, a flexible style of understanding and principles, as well as the consequences of their experiences and tales as a part of the creation of their identities. The participants felt unprepared for the new phenomenon in education, but according to their experiences, they were able to utilize their potential by adapting to technology. The internet played a significant role in the pre-service teachers' practicum, among other things that were discovered to affect their distance practice teaching.

DISCUSSION

A. Experiences of Elementary Pre-service Teachers Amidst the COVID-19 Pandemic

First Theme: Struggles in Practice Teaching. As the pandemic affected their internship, they had been constrained by their actual practice to their own pace, leading them to unexperienced and exposing them to unexpected learning and teaching environment which is a virtual class. The pandemic's pre-service teachers claimed that something was missing from their service to the partner school. (Ersin, Atay, & Mede, 2020). Pre-service teachers struggle in their preparation of their journey as professional teachers:

Second Theme: Unpreparedness of Pre-service Teachers. In 2020, pre-service teachers experienced the distance practice teaching. Different learning modalities used as well in the basic and tertiary education. During the utilization of online learning different universities and schools' researchers mentioned some disadvantages (Niemi & Kousi, 2020). The sudden change of learning environment has become one of the most

prevalent reasons why students are unprepared. (Giani & Martin, 2021). The participants have academic reservations regarding their readiness to teach as a result of the COVID- 19 pandemic.

Third Theme: Adapting to Technologies. The pandemic was initially perceived as a threat, but as people learned to live with it, they began to see it as a chance to advance technology and provide the globe access to opportunities that had been lost because of the pandemic. As a result, the pandemic forced educators and students to adopt new technology and make the most of their experiences and skills under the new normal. (Secundo, et al., 2021). The participants in the current study choose to embrace the new normal in their midst because they feel that this is the best way to adjust to it.

B. Factors Affecting the Experiences of Elementary Pre-service Teachers Amidst the COVID-19 Pandemic

The participants' recounted experiences during their distance student teaching paved the way for the identification of the following factors that influenced their experiences: the internet connection fuels the new set-up of education, lack of interaction, and the need for on-site set-up.

First Theme: Internet Connection Fuels the New Set-up of Education. The participants in the current study asserted that the internet has saved them from this pandemic. Despite the stress of having to use the internet for their education, they must obtain a reliable internet connection. According to the study of reference, as teachers appear to be absent in this pandemic, kids are mostly dependent on the internet. The informants went on to say that Google appears to be their mentor during the pandemic. The pre-service teachers in the current study experienced comparable issues with the reference informants (Pastores et al.,2021)

Second Theme: Lack of Interaction. The reference study made clear how crucial connections are for pre-service teachers to support and collaborate on their academic and practical journeys. Experiential learning greatly benefits from social interaction. The pre-service teachers connected online through various platforms, and through that connection, they could share knowledge, and that was essential to their student teaching experience. (Ersin & Atay, 2021)

Third Theme: The Needs of On-site Set-up. The practice teachers had to set up their classrooms in the convenience of their own homes. To give their tutees or pupils the impression that they are actually in a classroom, the classroom must have a proper setup. Even in the circumstances they are in, pre-service teachers must ensure that the learning environment is favorable. (Napanoy, Gayagay, & Tuazon, 2021). On-site set-up is necessary for teaching in the new standard of education.

Conclusions

The following conclusions are drawn based on the experiences of the pre-service teachers who are doing their pre-service teaching in the new normal of teaching:

1. The pre-service teachers encountered a variety of difficulties while completing their distance learning practicum, but they must adjust to the new teaching and learning modes to reach their full potential.
2. Remote practice instruction has both advantages and disadvantages. The advantages of using technology in the classroom and having a flexible schedule were mentioned by the informants, while the disadvantages included a lack of social interaction, slow internet connectivity, and the requirement for the traditional setup. For them, face-to-face instruction is unusual and the most effective way to learn.
3. Pre-service teachers used different teaching strategies and styles with the help and supervision of their cooperating teachers.
4. The researcher developed an enhancement of the teaching internship plan that may serve as a basis for the Tertiary Education Institutions and Partner Schools.'

Recommendations

The following recommendations are suggested by the researchers based on the findings of the study:

1. For the Supervising Instructors, the Student Teaching Internship Manual shall be updated or modified to improve its value and effectiveness for the preparation of pre-service teachers.
2. For the School Administrators, support the plans of the supervising instructors to ensure the quality and effectiveness of the implementation of the revised Student Teaching Internship Manual.
3. For the Partner School, collaborate with Teacher Education Institutions to produce excellent, efficient, and multi-skilled future educators.
4. For the Practice Teachers, be adaptive, flexible, reinvent, and expose themselves in different learning experiences so that they can survive in different challenges in the field of education.
5. For the Parents, motivate and support their children financially, physically, morally, and emotionally for future endeavors.
6. Future Researchers may attempt to research the same topic with different locale and more participating school.

Compliance with Ethical Standards

The researcher of the study gets the approval of the University President, the Vice President for Research and Innovation, and the data privacy officer before informed consent is obtained to carry out the study. It was forwarded to the university president and

directress of the participating schools. This has been discussed and sent to the participants after the interview. All data is treated with the utmost confidentiality.

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CHARACTERIZATION OF SOLID WASTE IN COTABATO CITY: BASIS FOR WASTE TO ENERGY GENERATION POTENTIAL

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ABSTRACT

This Waste is one of the most common problems in every community. Whether in the most advanced country or third-world country like the Philippines. People have difficulty disposing of their waste correctly; vis-à-vis the local government unit, which lacks a concrete plan for solid waste management. The energy sector is considered a perfect match for the waste management sector as it can help meet the growing energy demand. This paper primarily presents the waste to the energy potential of Cotabato city. First, the solid waste should be characterized, and then the calorific value should be determined to identify its energy potential. The study undergoes different methods, such as random sampling and proximate analysis. After analysis, the waste generation in Cotabato is equivalent to 136,400kg/day or 150.36 tons/day. It has been found that the most common waste in the city is kitchen garbage. Based on the proximate analysis, it can be concluded that the moisture content of the waste significantly affects the combustible content, resulting in low energy potential. When the waste is treated properly and has low moisture content, it can have energy potential.The study indicates that the waste samples have an average calorific value of 2,765.03 kcal/kg or 11,568.88 KJ/kg.

Keywords: *Solid Waste, Energy potential, calorific value, proximate analysis*

INTRODUCTION

This increase in population leads to a rise in waste, causing socio-economic and environmental issues worldwide. Furthermore, since most want to migrate from rural to urban areas, industrial wastes also contribute to accumulated waste (Vitorino de Souza Melare, et al., 2017). Waste is an inevitable outcome of our modern society, and it

presents a major challenge (Signa, et al., 2021). The words' dominant concerns regarding solid waste are improper disposal, inefficient waste collection, and lack of disposal facilities (Prashant Jha, 2018). Issues arise from producing, transporting and disposing of household waste. Even families have difficulty understanding proper waste management. The Local government fails to provide landfills that can dump this waste. Solid waste management plans are available, but implementation is lacking. People are not informed, and the government fails to provide facilities. This issue resulted in further problems, such as environmental problems, flooding, and health, which cause disease. The current waste management system faces challenges due to inadequate collection and large uncollected waste fragments, leading to waste dumping and burning. These still linger due to insufficient technology to ensure proper management, poor implementation of regulation, and poor public awareness. As a result, waste generation has rapidly increased (David, V. E, et al., 2019). Meanwhile, the attitude and motivation of the people on waste management shall also be consider, and their participation should be strengthened (Pamala, et al., 2017). Solid waste management affects everyone globally, with waste generation expected to increase by 70% to 3.4 billion tons annually by 2025 (Shekdar, A. V. 2009). Decisions made by individuals and governments regarding consumption and waste management can have adverse effects on communities' health, productivity, and cleanliness. Poorly managed waste can lead to contamination of the world's oceans, blockages in drainage systems, floods, the spread of disease, and increased respiratory infections (Tan, S. T, et al., 2015).

Energy waste is the process of recovering energy from waste materials and converting it into usable forms such as heat, electricity, or fuel (Yasin, H. et al., 2017). The advancement of this technology, in conjunction with other renewable energy technologies such as wind, solar, hydropower, and thermal, plays a critical role in achieving two sustainable development goals: affordable and clean energy (SDG 7) and climate action (SDG 13). This technology helps to create inclusive, safe, resilient, and sustainable cities and human settlements (Boumanchar, I. et al., 2019). The waste-to-energy concept is an excellent alternative to solid waste management. It is the combustion of commingled waste or some portion or kind of waste to produce energy like electricity. However, knowing the significant energy potential requires expertise and funding (Media, 2022).

In Cotabato city, only one dumpsite caters to the 37 barangays of the city. The location is in a community center, and the houses are close. It can also be see that there is not enough space for solid waste. The area will get flooded during the rainy season, and the foul smell will bother the neighborhood. In addition, health concerns are rising, especially for children who frequently play outside their homes (Dehghani, M. H. et al 2021). The city's physical limitations make it challenging to find a suitable site for a Sanitary Landfill (SLF).

The Biniruan RCA, located 13 kilometers from the Central Business District, is currently the only facility available for final disposal (JICA 2022). It should be noted that the amount of residual waste generated per person each day is 0.07 kg, which suggests that the design lifespan of the RCA (Residual Containment Area) is around three years. It is essential to mention that burning of waste is strictly prohibited in the vicinity of the

dumpsite, as per the Clean Air Act of 1999 (RA 8749). Therefore, the City Government of Cotabato should consider constructing a sanitary landfill as an alternative solution for waste disposal.

Recycling, landfilling with energy recapturing, biological methods, and Thermal treatment are the choices considered in waste management. Treating waste does not only manage but also produces energy in different forms, so it is also called the waste-to-energy (WTE) approach. (AlQattan, N. et al., 2018).

The objective of this study is to examine the calorific value of Cotabato city's solid waste and determine its potential for energy generation. Specifically, this study aims to measure the waste generation rate of Cotabato City, determine the waste composition, get a proximate analysis of waste composition, and recommend waste-to-energy facilities that best suit Cotabato City based on the available data and results.

The study is limited only to characterizing and identifying the potential recoverable energy from the solid waste of Cotabato City through the calorific value.

MATERIALS AND METHODS

Conceptual Framework

This study used a three-step framework. It involves solid waste profiling, proximate analysis, and solid waste characterization as a basis for potential energy (ASTM D 5231-92, 2003).

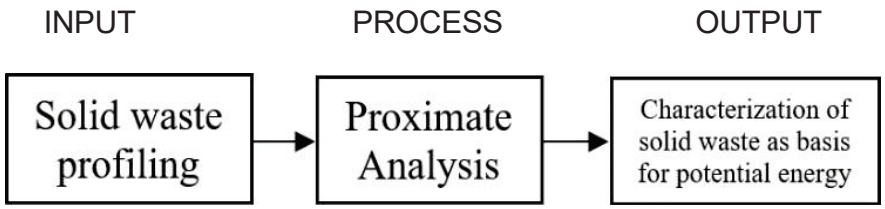


Figure 1. Conceptual Framework

Solid waste profiling includes the process of identifying the quantity as well as the composition of the wastes generated. In this case, the wastes were generated in the Biniruan dumpsite (the only dumpsite in Cotabato City), and they determined the waste generation rate, which was calculated, and concluded the approximate waste generated in the city and its potential as an energy source.

After conducting solid waste profiling, the waste is subjected to proximate analysis to determine its moisture content, volatile matter, ash content, and fixed carbon. These properties are significant if solid wastes become the fuel source (M. Campos M., R. Campos-C, 2017).

Finally, the waste undergoes characterization to determine how much potential energy the city can recover from its generated waste. Recoverable energy is computed using the calorific value of each type of waste. After a thorough analysis of the sampling results, it is also incorporated in this study which type of WTE facility is feasible for the City following the waste-to-energy concept.

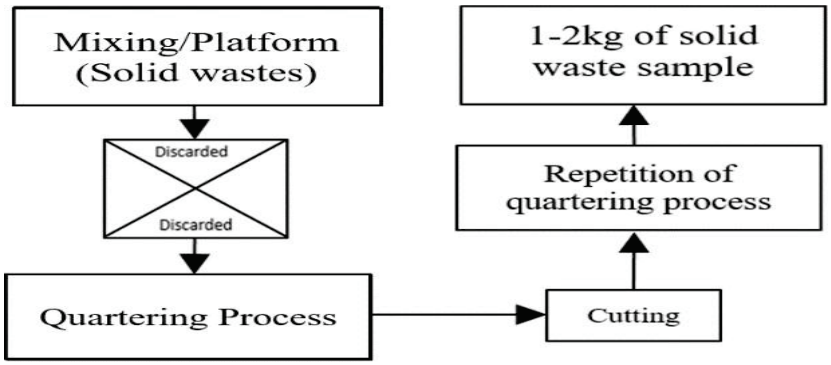


Figure 2. Sampling Process Flow Diagram

Materials and Resources

During the collection of the sample, plastic bags were provided. Gloves were used during collection, and a wheelbarrow was utilized in transporting the waste. Additionally, garden tools were utilized, such as shovels for mixing and spreading the sample waste, scissors to reduce the size of samples in large sizes, as well as masks and rain boots was used during the collection process.

The samples were dried, weighed, stored, and later used for moisture and ash content tests. The standard process of Davao Analytics Laboratory, Inc. served as the basis for the weighted sampling test.

Methods and Procedure

Sampling Method (Random sampling)

The American Standard Test Method (ASTM D-5231-92) was used for this study to analyze solid waste using a random sampling technique [14]. Using this method, it was able to identify the characterization of the new waste and be a potential energy source.

The solid waste will be collected at the Biniruan dumpsite in three batches during the morning. To ensure the credibility and accuracy of the collected sample, the collection was done in the presence of the City Environment and Natural Resources Office (CENRO), Local Government Unit representatives, and the designated workers at the dumpsite. In addition, actual photos will be taken to ensure complete documentation of the process.

The garbage truck's waste was dumped in the area within the dumpsite but separated from the old dumped waste. This ensures that the wastes used for this study are all freshly

delivered. Nevertheless, it is not feasible to separate all of the waste loads based on the kind of composition in a single day because the quantity of waste that is collected is typically sufficient to fill a garbage truck.. Also, due to time constraints, the researcher only uses a certain amount of waste from a load of total collected waste. Only 200kg of solid waste was collected and evenly mixed thoroughly using the shovel to avoid inconsistencies in the mixture of solid wastes.

Following the mixing step, the quartering method—a methodical splitting procedure—was implemented (M. Campos M., R. Campos-C, 2017)It was done by quartering the waste into four portions. Two portions will be retained, while the two quarters will be discarded. Using scissors to eliminate bias, those samples in bigger sizes will be reduced into smaller pieces (approximately ten cm^2). The retained portion undergoes quartering again to achieve approximately 1–2 kg of waste remains. Since the collected waste is from a dumpsite, it likely attained random sampling.

After sampling, the waste sample was segregated according to composition and stored in plastic with a zip lock. The obtained waste sample is transported to the laboratory, where several processes are performed.

Waste Generation rate

Part of the study is to measure the waste generation rate to learn the speed of waste accumulated in Cotabato City. It is the estimated amount of waste generated in residences over time (ASTM D 5231-92, 2003)

The waste generation rate was calculated using a method that multiplied the actual population of Cotabato City by the predicted waste generation per capita per day for 2022 based on WACS from the 10-year SWM Plan of Cotabato City Year 2018.

Hence, the daily waste generation is now computed using the following Eq. 1:

$$Total\ domestic\ waste\ =\ Total\ average\ per\ capita\ x\ total\ population\ in\ the\ city \quad (1)$$

Total domestic waste represents the fundamental components of solid waste discarded by the public in everyday life (ASTM Internacional, 2002).

Composition of the Waste Determination

In determining the waste composition, solid wastes were segregated after sampling and brought to the Davao Analytics Laboratory, Inc. The standard method used in the waste composition is ASTM D5231-92 (Sukarni, S. 2016).

After the sampling, solid waste was placed on an even platform and segregated thoroughly according to its composition. Then, it weighs the segregated sample using analytical balance to measure its weight accurately and calculate its weight ratio (%) in

the sample data sheet. After measuring the samples, each waste composition is stored in air-tight plastic bags with zip-lock.

In calculating the weight ratio (%) of the composition of the solid waste, Eq. 2 was used;

$$Weight\ of\ Ratio\ (\%) = \frac{Mass\ of\ composition}{Total\ mass\ of\ waste}\ x\ (100\%) \quad (2)$$

Moisture Content Determination

The moisture content is analyzed in Davao Analytics Laboratory, Inc. using the American Standards and Testing Material (ASTM 3173) (ASTM. 2011).

The muffle furnace is heated up to 750 ºC, and previously ignited porcelain crucibles are covered for 10 minutes. The crucibles are then cooled in a desiccator for 1 hour.

Out of the sample provided, 1g is accurately weighed as a homogenized sample using a crucible. The sample was dried for 2 hours at 105ºC in an oven.
The drying process continues at 1-hour intervals until the loss is less than 0.0005g in an hour.

The moisture content of the waste is calculated using Eq. 3:

$$\%Moisture\ = \frac{wt\ sample\ before - weight\ sample\ after}{wt\ of sample}\ x\ 100 \quad (3)$$

Ash content determination

The Total Ash content is the proportion of the biomass that remains after the sample is incinerated. ASTM D-3174-02 (ASTM Internacional, 2002).The procedure used to determine the ash is the American Standard Testing Material (ASTM 3174).

In this process, the sample from the determination of moisture and ash content will be utilized. Initially, the lids were placed in the uncovered crucibles in the muffle furnace at 750 ºC for 6 hours. The crucible is then cooled with lids placed in the desiccator for 1 hour and weighed. The burning process is repeated until the subsequent 1-hour period of heating results in a loss of less than 0.0005 g.

The ash content is calculated using Eq. 4; (ASTM Internacional, 2002).

$$\%Ash\ content\ = \frac{[weight\ of\ sample\ of\ sample + crucible] - [wt\ of\ empty\ crucible]}{wt\ of sample}\ x\ 100$$

(4)

Fixed carbon determination

The fixed carbon percentage was obtained by deducting the total moisture, volatile matter, and ash percentage from 100. (Eq. 5) (ASTM. 2020).

$$FC = 100 - (\%MC + \%VM + \%Ash) \quad (5)$$

Where:

$$MC = Moisture\ Content$$
$$VM = Volitile\ Matter$$

Calculating the Solid Waste's Calorific Value

The calorific value measures chemical energy in a material, which depends on its carbon, moisture, and hydrogen content (ASTM D 5231-92. 2003). The method used to calculate the calorific value of solid waste is based on ASTM 3173-3175 Standard Methods. Estimation of the calorific value of the solid waste is calculated using Eq. 6;

$$CV = 45V - 6W \quad (6)$$

Where:

$$CV - Calorific\ Value\ (\frac{Kcal}{kg})$$
$$V - Combustible\ Volitile\ Matter\ (\%)$$
$$W - Moisture\ Content\ (\%)$$

RESULT AND DISCUSSION

The purpose of this study was to explore the potential energy generated from the waste materials accumulated by CENRO in Cotabato City, which will be impactful economically, environmentally, and socially as the city will foresee a more urbanized and populated area. Accordingly, after a rigorous and detailed gathering of data, thorough analysis, and a series of sampling procedures and tests, the following is the tabulation of the results gathered during the study's duration.

Waste Generation in Cotabato City

According to the projected 2022 SWM plan of Cotabato City, the waste gen/cap/day is expected to be 0.40kg/day, and the actual population in this year 2022 is approximately 341,000. Based on this data, the estimated waste generation in Cotabato is equivalent to **136,400kg/day or 150.36 tons/day.** With this amount of waste, without proper waste management, it can lead to the accumulation and overloading of waste on temporary dumpsites and it may pose great danger to the community nearby and the city itself.

Percentile composition of the waste

Table 1. Percentile composition of solid Waste in Cotabato City

Composition	Batch 1		Batch 2		Batch 3	
	Amount, g	Percentage, %	Amount, g	Percentage, %	Amount, g	Percentage, %
Organic Matter	**128.34**	10.08	**187.60**	13.82	**231.95**	16.55
Kitchen Garbage	**293.40**	23.06	**246.10**	18.13	**311.65**	22.24
Paper	**287.20**	22.57	**315.66**	23.25	**126.5**	9.03
Wood	**75.91**	5.96	**112.58**	8.29	**148.69**	10.61
Fiber	**97.22**	7.64	**78.42**	5.78	**176.98**	12.63
Others	**103.00**	8.09	**180.40**	13.29	**198.9**	14.19
Plastic	**248.89**	19.56	**226.34**	16.67	**188.45**	13.45
Rubber & Leather	**38.64**	3.04	**10.38**	0.76	**18.45**	1.32
TOTAL	**1272.60**	**100.00**	**1,357.48**	**100.00**	**1,401.57**	**100.00**

According to the data, paper, plastic, and kitchen waste make up the majority of the sample that was gathered for batch 1. In the second batch, consistent with the kitchen garbage, it is dominant, but the amount of paper collected is immensely increased.

For the third batch, the kitchen garbage is consistently higher among all the compositions. At the same time, the amount of paper and plastic decreases.

It is concluded that the days of collection matter. For instance, if the collection is during weekdays, papers and other school materials are dominant, while if it falls on weekends, there is less paper or plastic. The way the waste was collected seemed comparable to those of other surrounding municipalities, such as Parang, Maguindanao. A total of five tons of waste were gathered during a clean-up effort along the Parang Beach shoreline by multiple non-governmental organizations (NGOs) in collaboration with the municipal office. The majority of the waste consisted of paper, plastics, empty bottles of water, and non-biodegradable objects (PNA, 2021). Meanwhile, the kitchen garbage is consistent from weekdays to weekends.

Average percentile of Biodegradable, Residual and Recyclable

Table 2. Average percentile of Biodegradable, Residual and Recyclabl

Description	Composition	Average, %
Biodegradable	Organic Matter	**61.20**
	Kitchen Garbage	
	Paper	
	Wood	
Residual	Fiber	**20.54**
	Others	
Recyclable	Plastic	**18.26**
	Rubber & Leather	

Table 2 shows the types of waste and where the compositions belong. For instance, Organic matter, Kitchen garbage, paper, and wood are biodegradable. In contrast, fiber and others (cellophane, fines, etc.) are residual. At the same time, recyclable are composed of plastic, rubber, and leather including the mean value of each waste categories. Based on the data, the Biodegradable has the highest value with 61.20%, followed by residual with 20.54%, while Recyclable is the least with 18.26%. This is consistent with the data in Table 1, wherein most of the waste is paper, kitchen waste, and non-biodegradable materials such as plastic.

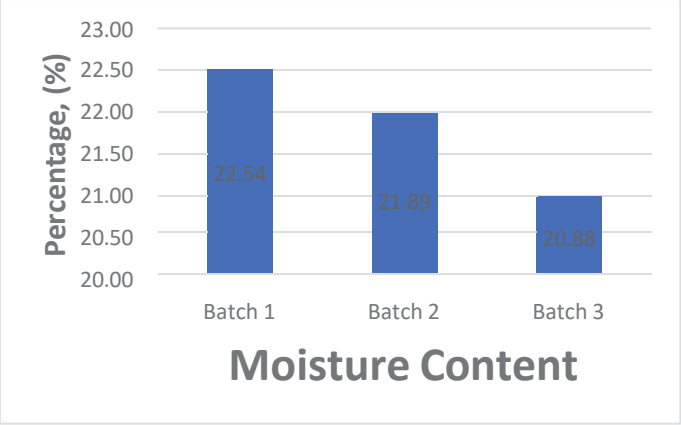
It can also be observed that metal, glass, ceramic, and stones are not included as samples due to the limitations of the laboratory to accommodate those types of waste compositions, as Cotabato City still has no sanitary landfill presently. Apparently, since Cotabato City has no sanitary landfill yet and no facility to process waste material, the accumulation of biodegradable waste, which has the highest percentage among the types of garbage, may incur problems in the community such as infectious disease, lousy odor, breeding grounds for mosquitoes, etc. Additionally, biodegradable waste can be processed and converted to new energy naturally since biodegradable products decompose safely by biological means into the raw materials of nature, disappearing into the environment. They can be solids biodegrading into soil (compostable) or liquids biodegrading into water.

Proximate Analysis

The figures 3, 4, 5, and 6 represent the moisture content, ash content, combustible content, and fixed carbon. These are the important properties that determine the waste's ability to become a fuel source.

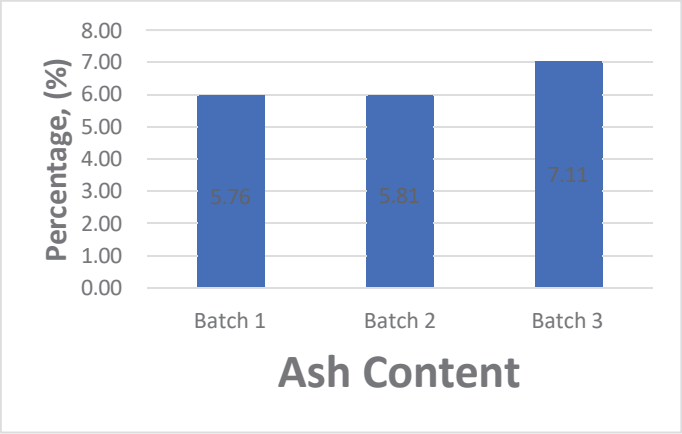
Moisture Content

Moisture contents are an vital factor to consider, especially when treating waste materials. Accordingly [18], the moisture content of solid waste affects leachate formation, microbiological activity, pollutants leaching, and energy consumption. Therefore, assessing moisture content is crucial for solid waste management. As seen in table 3, the moisture content level is slightly decreasing from batch 1 to batch 3. Consistent with the percentile composition of solid waste in Cotabato City as shown in Table 1, the greater the waste, the lesser the moisture content it possessed.



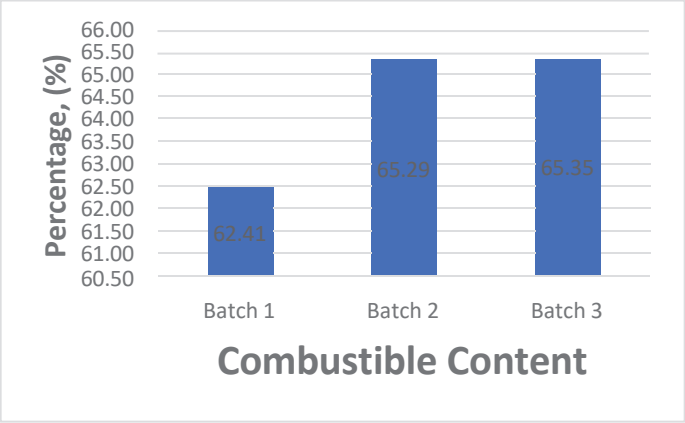
Ash Content

Ash content is also a part of waste management. An Ash test is a process that helps determine the percentage of filler material present in a given sample (ASTM Internacional 2002). Additional test procedures are required to identify individual percentages in multi-filled materials, as an ash test cannot determine the percentage of carbon fiber or carbon black due to their combustion during the test (Wójcik, M., et al., 2018). As observed in figure 2, the ash content in batch 1 is seen slightly increased from batch 2 from 5.76% to 5.81%, while batch 3 attained the highest ash content with 7.11%. In compared with the moisture content shown in Figure 3, the higher the moisture content, the lower the ash content, and vice versa. This shows that the moisture contents affect the level of ash produced during the thermal processing of waste materials.



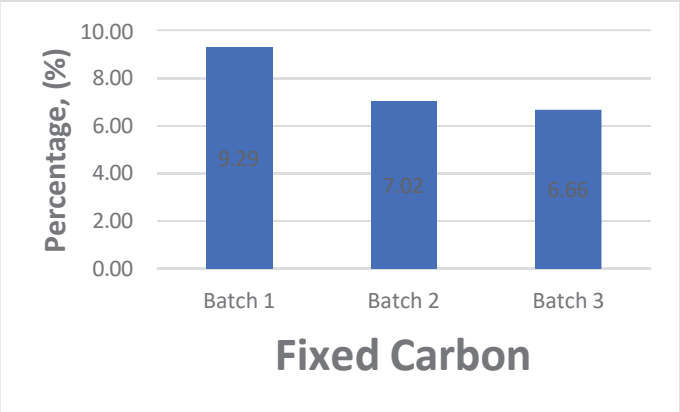
Combustible Content

Combustible content determines the capability of the waste for burning and incineration (ASTM Internacional, 2002). As shown in Figure 5, there was a vast increase that created gaps between batches 1 and 2 from 62.41 to 65.29, while batch 3 slightly increased from batch 2 with a total percentage of 65.35. The moisture content also posed a vital factor in the results of the ash contents; subsequently, the higher the moisture content, the lower the combustible contents, and vice versa. Hence, moisture content is also a significant factor in combustible content.



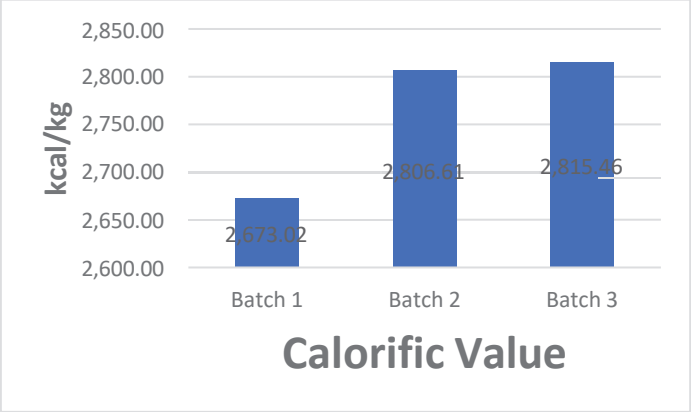
Fixed Carbon

Fixed Carbon is the residue obtained to a waste burned from a certain degree (ASTM 2020). In the figure 6, the batch 1 has slightly decreased from 9.29 to 7.02 in batch 2 and 6.66 in batch 3. As per observation in the other figures, the more moisture content the waste has, the more fixed carbon is likely to be obtained, while the more combustible and ash content in a waste, the lesser the fixed carbon percentage can be obtained. It shows that moisture contents and combustible content contributed to the percentage of fixed carbon that can obtained in a processed waste material.



The calorific value of the waste

Calorific value is the most essential characteristic of fuel to determine the energy content of fuel. The calorific value is based on the proximate analysis of moisture and volatile matter content. Figure 7 represents the result of the calorific value based on the proximate analysis per batch. It showed that the third batch got the highest value of calorific value, followed by the second batch, while the first batch was considered few. This is consistent with the results of the moisture content and combustible content in figures 3 and 5. The calorific value significantly affects if the moisture content is too high the calorific value increases, the moisture content decreases.



Statistical Treatment

Upon consultation with the statistician, the sample mean and standard deviation were used to treat all the collected data. First, the sample mean was used to determine the average percentile quantity of the solid waste in terms of moisture content, combustible content, ash content, and fixed carbon. In addition, the average calorific value of the solid waste was also determined using it. Furthermore, the standard deviation was used to know how tightly all the various examples are clustered around the mean in a data set.

Table 3. Statistical treatment of the sample solid waste

Description	Mass (g)	Ratio	Parameters				Calorific Value (kcal/kg)
			Moisture, %	Ash, %	Volatile matter, %	Fixed Carbon, %	
Organic Matter	182.63 ± 51.98	13.48 ± 3.25	39.22 ± 0.90	5.08 ± 2.53	45.75 ±2.52	9.95 ±1.05	1823.45 ±129.62
Kitchen Garbage	283.72 ± 33.83	21.14 ± 2.64	70.70 ± 0.82	3.78 ±2.06	24.85 ±3.30	0.67 ±0.06	694.05± 172.24
Paper	243.12 ± 101.99	18.28 ± 8.02	29.82 ± 0.35	7.95 ± 1.07	54.67 ±3.48	7.57 ±3.23	2281.1 ±159.63
Plastic	112.39± 36.39	8.29 ± 2.32	0.13 ± 0.45	1.39± 0.64	97.48± 0.48	1.00± 0.72	4386± 21.45
Fiber	117.54 ±52.33	8.68 ± 3.54	9.38 ±0.34	2.72 ±5.21	77.65±7.31	10.25±3.35	3437.95 ±394.21
Rubber & Leather	160.77 ± 50.88	11.86 ±3.29	1.03 ±1.01	18.82 ±7.15	71.65 ±2.27	8.50±2.64	3218.07 ±103.59
Others (Fines)	221.23 ± 30.54	16.56 ± 3.06	2.00 ± 4.32	7.37 ± 2.62	90.33 ±4.68	0.30±0.05	4053.01 ±213.37
Wood	22.49 ±14.56	1.71 ± 1.18	21.90 ± 0.08	2.68 ±7.75	52.40 ±13.64	23.02 ±15.42	2226.60 ±646.41
Total	1343.88 ±65.55	100 ± 0.00	21.77 ± 0.76	6.22 ± 0.51	64.35 ± 1.68	7.66 ± 1.43	2765.03 ± 79.81

The mean and standard deviation of the solid waste sample are shown in Table 3.

Based on the table, the kitchen garbage garnered the highest mass, with a total number of 283.72. This is consistent with the percentile of waste materials as shown in Table 1. In contrast, wood waste has the lowest mass with a percentile of 22.49.

Regarding moisture content, the kitchen garbage also gained the highest percentile of 70.70. According to a study, kitchen and food waste usually contain high moisture among waste disposal. Still, it may be decomposed easily if adequately managed. Meanwhile, plastic has the most negligible moisture content of 0.13.

In terms of ash content, rubber and leather have the highest percentile with 18.82. Rubber contains a high ash content percentile because of its components. Meanwhile, plastics have the most minor ash content, 1.39. This is consistent with the

other research, wherein the plastic bottles recorded the lowest ash content among all of the tested waste materials.

In terms of fixed carbon, fiber gained the highest percentile of 10.25. In contrast unidentified waste categorized as others gained the lowest fixed carbon percentile.

Lastly, among all waste materials, plastics garnered the highest calorific value with 4,386, while kitchen garbage has the most negligible calorific value. This is consistent with the calorific value of waste shown in Figure 7, wherein waste with the least moisture content, such as plastics, can obtain a high calorific value. In contrast, waste with the highest moisture content tends to get the lowest calorific value, such as kitchen garbage. Hence, the average potential energy that can be recovered from waste in Cotabato City based on the calorific value is 2,765.03 kcal/day, equivalent to 11,568.88 KJ/kg.

Type of WTE facility for Cotabato city

Waste management in Cotabato City is a big problem since it adds to the city's flooding during heavy rains.

Even though the sanitary landfill may pose a great innovation to solve the waste disposal of the city, based on the results of this study, since most of the waste in kitchen garbage is categorized as biodegradable, it may pose a risk to the community and nature. Biodegradable waste, due to its characteristics, has adverse effects in sanitary landfills such as foul odors, infectious diseases, the accumulation of methane gas, air pollution, and more. Additionally, geographical aspects pose a significant challenge since Cotabato is situated in a low and marshy area that is not suitable for a sanitary landfill.

With these factors, a waste-to-energy facility should be pursued. As shown by the results, kitchen garbage along with biodegradable waste has the highest number of waste disposals, indicating that the WTE facility to be pursued should be favorable to biodegradable waste while also catering to other waste materials. The most common WTEs include thermal combustion, mechanical biological treatment, thermochemicals, and biochemicals. The selection of WTE in Cotabato City should consider factors such as the guideline under RA 9153, the Renewable Energy (RE) Act of 2008, RA 8749, the Clean Air Act of 1999, and the Ecological Solid Waste Management Act and financial dependency. Among those, elaborated WTE, biochemical fermentation, and anaerobic digestion are highly recommended.

The biochemical waste-to-energy facility promotes a much more environmentally friendly and low-cost waste disposal facility than the WTE mentioned above, which is far more expensive and poses a threat to the community and environment.

Fermentation breaks down glucose in organic materials, converting sugar into alcohol or acid through chemical reactions. When added to the biomass, yeast or bacteria consume the sugar and release carbon dioxide and ethanol. Bioethanol needs to undergo a distillation process to attain the necessary purity level so that it is fit to be used as a transport fuel. The residue remaining from the fermentation process can be utilized as animal feed. At the same time, bagasse can be employed as fuel for boilers

(Rahayu, A. S., 2015). India, the People's Republic of China (PRC), and Thailand are among the countries that utilize this type of waste processing. Fermentation is the first process, which has two classifications: dry and wet fermentation, which leads to anaerobic digestion. Anaerobic digestion is the breaking down of organic waste in an environment without oxygen to produce biogas. In this stage, it will address the processing of biodegradable waste such as kitchen garbage, organic matter, paper, and wood, which, based on the results, dominates the mass of the waste collected at the dumpsite in Cotabato City.

The WTE (Waste-to-Energy) system is designed to collect and store ethanol, methanol, and bio-butanol, along with the resulting biogas. Heat from the biogas can be utilized to power appliances, lighting, small-scale cooking, and other things. It can also be transformed into electrical energy. This method is a cleaner, greener energy choice because it is not only effective but also contributes to the decrease in the usage of dangerous fossil fuels.

Additionally, the construction and maintenance costs of the other WTEs, especially the well-known combustion facility, are far more expensive than those of the anaerobic digestion facility. According to the article published by Eco-Business, the proposed WTE facility in Quezon would cost around P22 billion (US$423 million). The project aims to generate 36 megawatts of electricity by converting 3,000 metric tons of solid municipal waste daily. As we observed, a combustion facility requires a massive amount of electricity that the current distributor in Cotabato would not meet, even at a lower wattage. In comparison, the DOST announced the construction of an anaerobic digester in 2022, amounting to P444, 000.00 pesos. A biogas digester facility will be constructed in Aurora, Pampanga. It has a loading capacity of 20 cubic meters, or approximately 7 tons. The facility will use a process called anaerobic fermentation to convert waste into biogas. Biogas is a colorless and odorless gas composed mainly of methane and carbon dioxide. It can be utilized for heating purposes, like cooking. Also, utilize it in fuel cells or gas engines to produce electricity and heat.

Conclusion and Future Works

The study evaluated the recovery energy potential of the waste generated in Cotabato City. The process begins by characterizing the composition of the waste collected. It shows that Cotabato City's primary source of waste is kitchen garbage, while rubber and leather are few. The waste samples are analyzed in the laboratory to determine their moisture content, ash content, volatile matter, and fixed carbon. The laboratory analysis's findings show that the waste's moisture content has a major impact on its combustible content. However, using biochemical waste for generate energy through fermentation and anaerobic digestion, there is a high tendency that the waste will have energy potential, such as biogas, ethanol, etc. It is a practical choice for the local government unit to select a cleaner and more cost-efficient facility to ensure the sustainability and efficacy of the facility and the degradation of accumulated waste in Cotabato City.

In this study, the following are recommended for waste profiling and future studies of the waste-to-energy potential: first, Cotabato City, through CENRO and in partnership

with the Ministry of Environment, Natural Resources, and Energy, must make an understandable study on the waste management in Cotabato City, especially on the statistics of waste disposal. Second, CENRO must consider in their planning and budgeting pursuing the waste-to-energy facility in the city, as many major cities are now pursuing the building of their own WTE and also heeding the call of the COA. Additionally, since the recommended WTE focuses more on biodegradable waste, a supplemental study should focus on understanding the characteristics of non-biodegradable waste and possible results and include in the study the waste-to-energy facility's structural, architectural, and mechanical design for easy reference by investors and the government.

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CHEMISTRY LEARNING SKILLS OF SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS STUDENTS: INFLUENTIAL ROLE OF TEACHERS' BLENDED EDUCATIONAL STRATEGY USAGE

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ABSTRACT

This study aimed to explore the influence of blended educational strategies practiced by teachers on the chemistry learning skills of Science, Technology, Engineering, and Mathematics (STEM) students. Surveying 100 STEM students from a private senior high school in Davao City, it was found that students perceived the level of blended educational strategies used by their teachers to be high, with an overall mean score of 4.08. Similarly, STEM students rated their chemistry learning skills high, with an overall mean score of 4.09. The Pearson Product Moment correlation statistical analysis revealed a significant moderate positive association between students' perceptions of blended educational strategies and their chemistry learning skills. Furthermore, it was discovered through simple linear regression analysis that teachers' blended educational strategies significantly predicted STEM students' chemistry learning skills. These findings underscore the importance of integrating blended educational approaches into STEM curricula to improve students' academic performance and overall learning experience in science, particularly in the blended learning environment.

Keywords: *Blended Education, Teaching Strategy, Chemistry, Learning Skills, Teachers, Davao City, Philippines*

INTRODUCTION

As COVID-19 strikes, education all over the world has been altered and introduced to a different type of learning modality. As a result, limited face-to-face has been slowly implemented in different schools all over the globe. This face-to-face modality has been supported with digital learning modality also known as blended learning to ensure the continuous learning of the students even in a distance context. Yet, one of the difficult science subjects is chemistry. Students tend to feel uninterested in the subject matter because of some factors like their basic knowledge and/or the teacher's teaching strategies. Students find it extremely difficult to comprehend the microscopic/macroscopic chemical world and abstract notions in chemistry since they deal with difficult concepts like molecular structures, chemical bonds, and chemical reactions (Mazzuco et al., 2022). Given that chemistry is a difficult subject even in a normal face-to-face class, it gives more challenge to students to grasp the content independently during their online session. With this, students' learning skills in chemistry will be affected by how the teachers deliver the lessons during face-to-face and online learning sessions.

The huge advantages of cutting-edge digital technology in education have been realized since 2020 when the COVID-19 pandemic compelled all educational institutions to swiftly switch to online instruction to ensure students' continuous learning in an emergency circumstance appealing to additional educational support (Abuhassna et al., 2022). The effectiveness of online home learning is significantly impacted by teacher negligence, inadequate tools and infrastructure, and a lack of discipline and learner independence while implementing long-distance learning (Sunaryo et al., 2022). This effect will become more pronounced in science courses like chemistry, which students perceive to be challenging (Kartimi et al., 2021). The abstract, illogical, and particle nature of chemistry makes it challenging for students to comprehend its principles (Gafoor & Shilna, 2013). Numerous elements, including students' attitudes toward chemistry, motivation levels, learning resources, interpersonal interactions, collaboration, and students' irregular attendance in class, have been identified as contributing to the persistent low success in chemistry. However, because of the COVID-19 pandemic, there is little data on what influences students' success in chemistry during online and distance learning. The COVID-19 pandemic in the UAE made it important to look at a few measures of students' performance in online and remote chemistry lessons (AlMahdawi et al., 2021).

Meanwhile, as COVID-19 strikes in the Philippines, the government together with advocates for high-quality education and DepEd curriculum specialists opted to use blended learning strategies (Tupas & Linas-Laguda, 2020). There has been a growing demand for blended learning, and this possesses problems and challenges (Alvarez, 2020). Success in blending learning strategies in science necessitates a well-established information technology system. However, the Philippines' information technology structure is less developed than that of wealthy nations because it is a developing nation (Pagaran et al., 2022). Online lectures are not very common in most academic institutions in the Philippines and chemistry lectures are generally given in classroom settings (Lapitan et al., 2021), obviously, students will meet major challenges with it (Manila

Standard, 2021). However, in addition to the instructor aspect, other factors have also been demonstrated to have an impact on students' performance. Students' performance in science classes like chemistry was also found to be significantly influenced by student- and environment-related factors. Therefore, the daunting task of reawakening interest and creating an environment that is conducive to the effective teaching of chemistry in particular and the sciences in general falls on the shoulders of the chemistry teacher, students, parents, high school administrators, curriculum planners, and the government (Orbe 2018).

In a study conducted in Davao de Oro, distance learning is becoming the new norm, and its implementation makes students more anxious because they must individually learn and adjust to a particular learning style. This leads to a thorough investigation of student motivation and self-direction, particularly in distance learning. With regards to the science performance of Filipino students, they still have a shadow cast over their contribution to improvement, despite the current level of competence that the Filipino students earned from international exams like PISA and TIMSS. About 22% of students in the Philippines received a Level 2 or better in science. These students can correctly explain well-known scientific phenomena and use what they've learned to solve straightforward problems. Students' performance in science subject specifically in chemistry is affected by their attitude. The professors' favorable attitudes toward science had an impact on the students' positive attitude in their chemistry class (Rebucas & Dales, 2022).

According to Rebucas et al. (2022), students must develop these abilities for self- directed, disciplined, and lifelong learning on a global scale. The absence of self- directedness in science learning presents difficulties because it will inevitably lead to poor academic achievement, a diminished sense of responsibility, and a deficiency in learning abilities (Rebucas & Dales, 2022). Students that study science, face challenges in their major subjects. Additionally, a study conducted at the University of Mindanao, Digos College, presented that some college students weren't prepared for online learning due to learners' control, self-directed learning, and the effectiveness of online communication. As a result, training employs technology and concentrates on creating learning materials that can be correctly planned to motivate students and encourage teachers to learn. As a result, the current class is more likely to forget crucial ideas required for higher learning, but it also opens the door for teachers to create solutions that make things work and are feasible (Dequito, 2022).

Rationale of the Study

The researcher seeks to present the importance of conducting the study especially that educators need to be strengthened with new e-teaching techniques in order to keep up with the new normal trend (Şal & Göçen, 2022). Let it be known that strategies must be carefully chosen to match the learners' needs, interests, motivations, and qualities. An excellent teacher approaches teaching and learning in a way that is more likely to provide learning outcomes of a better caliber (Valdez & Bungihan 2019). This is the primary reason why the researcher is inspired to see the relationship between blended

educational strategies and learning skills in chemistry among STEM students. Since that chemistry is being recognized as a core subject in the school curriculum and therefore it become a crucial for the growth of a national educational system (Sivagami & Balamurugan, 2019). A study conducted by Ibrahim et al. (2022), that mastery of the three levels of chemistry representations—macroscopic, microscopic, and symbolic—is one of the issues students in this field frequently encounter.

Since chemistry subject is difficult to comprehend since they deal with difficult concepts and observe abstract notion (Mazzuco et al., 2022), chemistry as a discipline and students' capacity to learn the subject successfully depend on the ability to recognize chemistry learning issues and find ways to meaningfully address them (Salame et al., 2022). With the literature presented above, the researcher finds the importance of conducting the study. Moreover, there are scarcity of study conducted in the locality about the mentioned study specifically in chemistry subject.

This study seeks to present the relationship between blended educational strategies and chemistry learning skills of STEM students. Aside from that what domain from blended educational strategies significantly influences the chemistry learning skill of students. This study will guide the science teachers in preparation of learning strategies anchored with blended learning modality. This study will benefit the following: Department of Education, school administrators, science teachers, students, and future researchers.

Research Questions

The problem deals with the educational strategies of teachers bounded in blended learning modality and chemistry learning skills of STEM students. More specifically, it seeks to answer the following questions:

1. What is the level of blended educational strategies as perceived by science students in terms of:

   1.1 student-centered learning;
   1.2 teacher-centered learning;
   1.3 active learning strategies; and
   1.4 passive learning strategies?

2. What is the level of chemistry learning skills of science, technology, engineering, and mathematics students when analyzed in terms of:

   2.1 critical thinking skill;
   2.2 collaborative skill;
   2.3 creativity and innovation; and
   2.4 technology application?

3. Is there a significant relationship between blended educational strategies and chemistry learning skills of science, technology, engineering, and mathematics students?

4. Is there a domain of blended educational strategies that significantly influences chemistry learning skills of science, technology, engineering, and mathematics students?

Hypotheses

This research study has the following null hypotheses that will be tested at 0.05 level of significance:

H_{01}. There is no significant relationship between blended educational strategies and chemistry learning skills of science, technology, engineering, and mathematics students.

H_{02}. There is no domain of blended educational strategies that significantly influence the chemistry learning skills of science, technology, engineering, and mathematics students.

Review of Related Literature

Blended Educational Strategy

There are studies and reports presented a clear demand for improved science education, not only in the subject content but also in how teachers relay the information to the students (Ma et al., 2018, as cited by Mshayisa, 2022). This means that teaching delivery has a factor in the learning process of the students. Based on a study conducted, an effective teaching has an engaging classroom presence, contextualization of real- world skills, exchange of best practices and a lifelong love of teaching (Barrera & Dela Cerna, 2022). In the past two years of having full online learning caused by COVID-19 pandemic, the term blended learning idea is viewed as a strategy (Abuhassna et al., 2022). Moreover, education is adapting with the quick and ongoing innovation in educational technologies in this digital age. Blended learning is confidently emerging (Anthonysamy et al., 2020). Since in the early 2000s, a number of educators and scholars have defined the term “blended learning” (Tahir et al., 2022).

Blended learning is the integration of both face-to-face learning and online learning. It maximizes the advantages of both these teaching approach (Sukma & Priatna, 2021). In the application of blended learning, students and teachers are able to conduct their lesson during face-to-face and continue the learning process even in a distance using digital tools. Furthermore, the idea of blended learning is growing popularly among educators, curriculum designer, and particularly in students (Widjaja & Aslan, 2022). There are several studies have investigated the effect of blended learning on students’ outcomes, as well as teachers’ perception to blended models (Tahir et al., 2022). An

innovative approach to education is the blended learning technique, which combines in- person instruction with online learning. a skillfully executed blend of classroom instruction that takes place in person and online learning that can be accessed at any time. Due to the time constraints, ease of student boredom during the learning process, and requirements of increasingly pervasive technical innovations (Wardani et al., 2018).

In addition, online learning promotes independent learning for students. To support students' independent study, a variety of learning tools, including Google Classroom, Microsoft Teams, etc., have been developed (Supriyanto et al., 2020). Due to the availability of this learning platform, students can study independently at home utilizing digital materials created by their teachers and this learning platform (asynchronous learning). The learning process and evaluation will proceed as usual, just like in a traditional classroom, but integrating synchronous and asynchronous learning (blended learning) (Resta et al., 2020). The learning procedure is the only thing that has changed from the COVID-19 era, when all learning was done through an online system (distance learning) (Yulia, 2020).

The process of learning is collaborative. Critical components of students' motivation, success, and achievement include teacher-student interactions and student- student collaborations (Lagat & Concepcion, 2022). A study conducted in Thailand revealed that in the past, junior high school teachers in Thailand concentrated on the traditional teaching approach by imparting their expertise to students. Nevertheless, teachers have been urged to enhance student learning methods in lieu of knowledge transmission in light of changes to national policy. As a result, media has been used in educational institutions to motivate students. The majority of teachers, however, have focused on creating and innovating instructional methods rather than learning innovations that encourage students to learn for themselves and improve their ability to research knowledge from teacher-prepared media (Kwangmuang et al., 2020).

In the implementation of blended learning modality as teaching approach, there are some factors affecting the students’ learning process. A study conducted by Lee and Recker (2021) that investigate which teaching approach led to the highest levels of student engagement in introductory online statistics or math courses, as well as how this approach affected participation and performance. The findings revealed four different factors that all had a favorable impact on students' performance: thorough feedback, problem-centered discussion settings, open-ended prompts, and grading. Additionally, students who attended sessions where the lecturers annotated their classmates' writings and encouraged in-depth discussion received final average marks that were considerably higher (Lee & Recker, 2021). Another relevant study that explored how factors at the course, student, and lecturer levels affected the distance learning performance of secondary school students enrolled in English language and literature courses. The results at the course level showed that students benefit more in classes that include project-based learning and deep learning activities. Additionally, findings from a student's perspective revealed that students perform better in class when they log in more frequently, stay longer, and refrain from enrolling in courses solely to earn credit (Zheng,

2020). The learning process of students is affected with the teaching approach done by the teacher.

Chemistry Learning Skills

Chemistry is a branch of science that investigates natural events, rules based on matter and structure, as well as the characteristics and energy changes connected to various material transformations (Neiles & Bowers 2020). According to Tekane et al. (2020, as cited by Dewi et al. 2021), chemistry learning attempts to comprehend chemistry topics because chemistry education is known as the principles of education and chemistry itself. Students, however, find it challenging to relate abstract chemical concepts to practical situations. The main goals of chemistry education research are to improve students' understanding of chemistry ideas and to foster meaningful chemistry learning. In order to assist students' grasp concepts and other learning variables, such as instruction and evaluation, it is often to focused on learning methodologies and media (Dewi et al. 2021). The learning achievement in chemistry at the senior secondary school levels has been the subject of numerous research over the years. The results of these research showed that students struggled to understand some fundamental ideas, particularly those related to creating chemical formulas and equations and doing calculations from them, concepts of chemical reaction equilibrium, and mole concepts, among others (Musengimana et al., (2021).

According to studies on the learning of chemistry, students frequently think that learning chemistry in general particularly is challenging. In addition, any kind of explanation requires mutually accepted symbolic representations. Some authors contend that students view chemistry as an irrelevant subject that is uninteresting, divorced from reality, and of no interest for their future in addition to the cognitive difficulties to learning it. Moreover, due to the fact that chemistry "often involves numerous abstract concepts, which are fundamental to further learning in both chemistry and other disciplines," it is urgent to engage students in the topic and encourage their active involvement in learning (Araújo et al.,2022). In addition, the implementation of student-centered methodologies must be widely adopted in this situation, thus the chemistry education field must focus efforts in this direction. Due to the way these approaches apply theoretical ideas in practical situations, students have more freedom to study. This makes it easier for content to be related to reality, which can aid in comprehending (Bernardi et al., 2022).

The Queensland Curriculum and Assessment Authority (2015) defined 21st-century skills as “high priority abilities and qualities thought to be the most important in assisting students and learners in living and working successfully in the twenty-first century” (Maya & Suseno, 2022). Learning in the twenty-first century involves more than just teachers imparting information to students, it also involves helping them develop their knowledge and abilities to the fullest. They are anticipated to become more adaptable and competitive on a worldwide scale as a result of this optimization (Jumriani & Prasetyo, 2022). According to Hixson et al. (2012), stated that every learner in the twenty-first century should possess the following learning skills namely, critical thinking skills, collaborative skills, communication skills, creativity and innovation skills, and

technological application. Students can become conscious of their own learning requirements and choose how they want to acquire knowledge. In addition, rather than memorization, they may comprehend the nature of knowledge. Students who want personal improvement or higher education can meet their learning goals flexibly and freely through lifelong learning (Tekkol & Demirel, 2018).

Curriculum, teaching methods, assessment, and infrastructure all need to be up to date for chemistry education in the twenty-first century. Students must gain 21st century abilities, values, and attitudes in addition to their academic, interdisciplinary, and practical understanding of chemistry if they are to be successful in the rapidly changing modern world. Along with literacy (i.e., information, media, and technology) and life skills (i.e., adaptability, leadership, initiative, productivity, and social), 21st century skills also comprise the four "Learning Skills," i.e. critical thinking, teamwork, communication, and innovation. Students are actively engaged in understanding scientific topics through learning activities as part of science education. In addition to being understood as such, these four learning abilities must to be integrated into every topic in chemistry, just like literacy and numeracy are. Only then will our students be able to internalize these skills (Bakhshi & Rarh, 2022). Furthermore, the educational approach is intended to pique students' interest and provide them practice in creating a scientific inquiry process that will enable them to identify solutions to issues regarding scientific phenomena in their immediate environment (Tahya et al., 2022).

Theoretical and Conceptual Framework

The study is mainly guided by the Kolb’s Experiential Learning Theory (1984) (Abdulwahed 2009, as cited by Ssekamatte et al., 2022). According to Kolb's theory, learning is effective when a participant has a concrete experience with the subject matter, followed by observation of that experience and reflection on it, which results in the formation of abstract concepts (analysis) and generalizations (conclusions), which are then used to test hypotheses in subsequent situations, leading to new work experiences (Ssekamatte et al., 2022). Applying this theory to the present study, it is anticipated that learning ability of the students in learning chemistry will be a concrete experience if the teacher contextualized the topic especially with the aid of technology as part of making blended learning strategy successful. Emerging the students to an experiential learning, it will lead into a concrete understanding and appreciation of the topic.

Supporting the above stated theory is RAT theory (Replacement, Amplification, & Transformation) by Dr. Joan Hughes in 1998. Technology replacement refers to as technology substitution of instructional practices, student learning processes, or subject objectives. Technology amplification refers to raising the effectiveness, productivity, and efficiency of teaching methods, student learning procedures, or content objectives. The term "technology transformation" describes how certain elements of curriculum, instruction, or learning are reinvented using new and creative technology (Maphosa & Bhebhe, 2019). Based on RAT theory, teachers can develop educational strategies incorporate with blended learning modality that will be utilized in the lesson preparation

and delivery. This theory will support the idea of technology integration especially in blended learning modality which implements face-to-face and online learning modality.

Another theory that would support the learning skills of students especially in learning chemistry is the constructivist theory of Lev Vigotsky and Jean Piaget. It seeks to foster personal growth through the social exchange of knowledge among the students, allowing for the collaborative exchange and construction of knowledge. As a result, learning is rooted in how students engage with the outside world, which is essential to grasping new concepts and their linkages in many contexts (Bernardi & Pazinato 2022). According to Wahyudiati (2022) learning chemistry that is anchored with this theory will allow the student to increase the constructive attitudes, knowledge, and experience. The students will be able to appreciate and grasp the idea and concept of the topics in chemistry.

Figure 1 depicts the conceptual framework of the study. As can be seen in Figure 1, the independent variable is the blended educational strategies with four indicators: student-centered learning, teacher-centered learning, active learning strategies, and passive learning strategies. On the other hand, the dependent variable is chemistry learning skills with four indicators: critical thinking skills, collaborative thinking skills, creativity and innovation, and technology application. The arrow placed between the two boxes where both independent and dependent variables are positioned individually signifies the assumed influence.

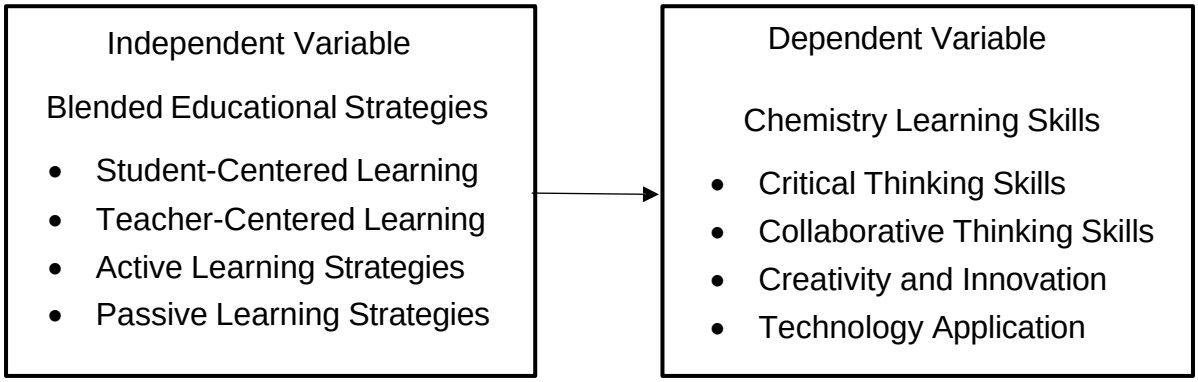


Figure 1. Conceptual Framework of the Study

METHODOLOGY

The research will apply the non-experimental quantitative research design which is used to gather and examine numerical data. Additionally, this study utilized a descriptive correlation approach. According to Sousa, et al. (2007, as cited by, Guido, et al., 2012), the quantitative approach is popular and, in principle, symbolizes the desire to guarantee results are exact, avoid analysis and interpretation distortions, and thus provide a margin of safety against interference between two variables. With descriptive research approach, it attempts to presents, analyzes, and interprets data in order to describe how current

problems are being solved (Erwanto 2022). In order to determine which variables are linked, correlation is used. Stangor et al. (2015) mentioned that the correlation study strategy is utilized to find relationships between variables. The above-mentioned research design is appropriate since in this study, there is no random assignment, control groups, or variable manipulation for data will purely rely on observation through the survey. This design will aid in describing the relationship of blended educational strategies and chemistry learning skills of science, technology, engineering, and mathematics students.

Research Locale

This research study will investigate the educational environment of a private school located in Davao City, Philippines, focusing specifically on the Science, Technology, Engineering, and Mathematics (STEM) students within the senior high school unit. The institution houses both basic and tertiary education departments, along with technical vocational education and training programs, situated in the Davao Region. STEM education, designed to prepare students for higher education and careers in STEM fields, is gaining traction, particularly with initiatives led by the Department of Science and Technology (DOST) Secretary Fortunato dela Peña. The study's emphasis on grade 12 STEM students, particularly in chemistry, aims to understand student perceptions and experiences within this academic discipline. The researcher's employment and teaching role within the senior high school unit provide a unique advantage for conducting this investigation, ensuring convenient access to participants and relevant insights into the educational context**.**

Research Respondents

This research will focus on one hundred grade 12 senior high school students enrolled in the Science, Technology, Engineering, and Mathematics (STEM) strand, selected through simple random sampling. Utilizing 100 samples, the study aims to statistically analyze data to address its research question effectively. This study will use the specific characteristics using the following criteria: must be enrolled in one of DepEd accredited schools in the locality; must be grade 12 under science, technology, engineering, and mathematics strand; must be 18 years and above; must complete and submit the study consent with attached signature. Two questionnaires will be used: the adapted blended educational strategies questionnaire with 20 items and the adapted chemistry learning skills questionnaire with 18 items, both divided into specific parts. Exploratory factor analysis will be employed to assess the reliability of responses to each variable and its indicators.

The 5-point Likert scale will be used in the questionnaire given to the respondents, with indicated values to determine the overall responses of the respondents on various parameters.

Likert Scale for Interpreting Blended Educational Strategies

Mean Interval	Descriptive Level	Descriptive Interpretation
4.20 – 5.00	Very High	The blended learning strategy is always manifested in classroom setting.
3.40 – 4.19	High	The blended learning strategy is often manifested in classroom setting.
2.60 – 3.39	Moderate	The blended learning strategy is not manifested in classroom setting.
1.80 – 2.59	Low	The blended learning strategy is sometimes manifested in classroom setting.
1.00 – 1.79	Very Low	The blended learning strategy is rarely manifested in classroom setting.

Likert Scale for Interpreting Chemistry Learning Skills

Mean Interval	Descriptive Level	Descriptive Interpretation
4.20 – 5.00	Very High	The students' chemistry learning skills is exhibited outstandingly.
3.40 – 4.19	High	The students' chemistry learning skills is exhibited highly satisfactory.
2.60 – 3.39	Moderate	The students' chemistry learning skills is exhibited satisfactory.
1.80 – 2.59	Low	The students' chemistry learning skills is exhibited poorly.
1.00 – 1.79	Very Low	The students' chemistry learning skills is exhibited very poorly.

Data Gathering

The researcher will begin by obtaining permission from the administration of the affiliated institution to conduct the study, focusing on grade 12 STEM students. The survey questionnaire will undergo validation by three educational experts, incorporating their feedback for refinement. Pilot testing involving twenty teachers will ensure clarity and reliability of the questionnaire. Ethical review by an institutional research ethics committee will safeguard participants' rights and dignity, bolstering the study's legitimacy. Following endorsement from the researcher's graduate school, permission from the head of the senior high school unit will be secured. Informed consent will be obtained from respondents before distributing the survey via Google Forms, enabling automated data collection. Google Workspace will facilitate data organization, with statistical analysis conducted using appropriate software. The researcher, guided by a statistician, will interpret findings within the context of the literature review, formulating recommendations and conclusions. Subsequent submission to the Research Ethics Committee for approval to publish will ensure adherence to ethical standards, with reviewers scrutinizing data collection procedures and participant safety measures.

Data Analysis

In analyzing the result of this study, the researcher will use the following statistical tools:

Mean. The mean is determined by dividing the total number of values in the data set by the number of values in the data set (Laerd Statistics 2022). In this study, the result mean will be used to answer the first two questions stated in the statement of the problem. It will describe the level of blended educational strategies as perceived by STEM students and the level of chemistry learning skills of STEM students.

Pearson Product Moment Correlation of Coefficient. The Pearson's correlation coefficient, r, measures how far all of these data points are from the line of best fit that a Pearson's correlation seeks to draw across the data of two variables (Sreedevi, 2022). This statistical tool will help to determine the significant relationship of blended educational strategies and chemistry learning skills of STEM students.

Linear Regression Analysis. Linear regression is a statistical method that connects an independent (explanatory) variable to one or more dependent (dependent) variables. If there is a relationship between changes in the dependent variable and changes in one or more of the explanatory variables (Haciibrahimoglu 2022). This regression analysis will be used to determine the specific indicators of blended educational strategies that significantly affect the level of chemistry learning skills among STEM students.

RESULTS AND DISCUSSION

This section present, analyze, from the conducted empirical study which explored the blended educational strategies of teachers and chemistry learning skills of science, technology, engineering, and mathematics (STEM) students.

Table 1. Level of Perceived Blended Educational Strategies of Teachers

Domain	Mean	Descriptive level
Teacher-centered	4.30	Very High
Passive Learning Strategies	4.21	Very High
Student-centered	4.09	High
Active Learning Strategies	3.73	High
OVERALL	**4.08**	**High**

Level of Blended Educational Strategies of Teachers

The first statement of the problem in this study is to determine the level of blended educational strategies as perceived by science, technology, engineering, and mathematics (STEM) students. Table 1 provides the answer of this objective.

The level of blended educational strategies of teachers in terms of teacher-centered, student-centered, passive learning strategies, and active learning strategies is presented in Table 1. Specifically, among these four indicators in blended educational strategies, teacher-centered is the highest domain which obtained a mean of 4.30 which descriptively interpreted as very high. This suggest that teacher-centered strategy is always manifested in blended educational strategies among teachers as perceived by STEM students in classroom setting.

This implies that in a very difficult subject like chemistry, teacher can assume and take on a major role in instructional design and delivery of the lesson, which can resSult into an improved control over the course content of the subject. This strategy is effective especially in delivering difficult content in chemistry. Additionally, teacher's guidance it promotes student independence in their learning. Moreover, teacher-centered strategy of teachers in teaching chemistry is essential for convenient learning among STEM students.

The result is in line and supports the findings of Wong et al. (2020), that students prefer the teacher-centered strategy to engage them in different learning environments. Providing teacher-centered approach among STEM students, it was emphasized in the study of Dervić et al. (2018), that teacher-centered approach emphasize direct instructions, lectures, and demonstrations may be more effective than student-centered ones, which allows students to engage in self-paced learning. Additionally, when it comes to enabling science learning and generating positive attitudes, computer assisted learning can be effectively delivered through teacher-directed approach than the student-directed approach.

The second highest domain is passive learning with a calculated mean score of 4.21 with a very high descriptive level. This indicates that passive learning strategy is always manifested in blended learning strategy among teachers as perceived by STEM students in classroom setting.

This implies that passive learning strategies on blended learning in learning chemistry provides a better transmission of knowledge for the students to understand the lesson since chemistry subject needs to be thoroughly discuss to the students for them to grasp the lesson. It also prevents misconception about the information needed to understand by the students. Additionally, it allows the student to focus within the context of the discussion and narrow down the information based on logical inference. Moreover, it allows the students to received information that are difficult to understand through thorough discussion by the teacher.

According to Maia (2023), which is in line with the result, discuss that passive lectures involve the teacher actively transmitting theoretical information to the students, who perform a (primarily) passive role by listening, annotating, and accepting the information offered by the teacher. Moreover, according to Rodriguez (2020), passive

learning allows students to enhance their defining, describing, listening, and writing skills. It also develops convergent thinking, which is often assessed by quizzes, assessments, and handouts.

The third highest domain is student-centered approach which obtain a mean of 4.09 which descriptively interpret as high. This suggest that student-centered strategy is often manifested in blended learning strategy among teachers as perceived by STEM students in classroom setting.

This result implies that student-centered approach in blended learning system has a broad ramification that enhance learning results. Students become active agents in their own learning when student engagement, motivation, and active participation are prioritized especially in learning chemistry. This learning approach encourages the improvement of problem-solving and critical thinking abilities as well as specific learning experience as it is applied in blended learning approach which enhances their learning outcomes.

The result is in line and supported with the findings of Cummings (2017), that encouraging student into learning engagement through active learning activities and assessments will lead into the development of their comprehension, retention, and problem-solving skills. It was also stated by Shrivastava and Shrivastava (2022) that student-centered blended learning, which uses information technology enable students to access learning resources and materials at any time, from any location, with anyone, is the future of the subsequent normal education paradigm.

The lowest domain among blended educational strategies is active learning strategy which obtain the mean of 3.75 with high descriptive level. Despite of having the lowest calculated mean, active learning strategy can often be manifested in blended learning strategy among teachers as perceived by STEM students.

This indicates that active learning strategy ca result into increasing student engagement and achievement. Critical thinking, problem-solving abilities, and a change toward student-centered learning can all be supported by active learning practices that put students at the center of the learning process. These strategies can be supported in a mixed learning setting by online collaborative tools, adaptive learning technology, and individualized learning pathways.

The result of the study is aligned to what is presented by Such (2022), the progress to blended education for active learning in undergraduate science education is still in its early stage. It is also cited by Vodovozov et al. (2022), that active learning promotes students to take control of their own learning by creating their own knowledge through experience, while teachers support learning by making it real, engaging, and relevant. As a result, its significance is growing quickly.

The overall mean of blended educational strategies of teachers is 4.08 and interpret as high descriptive level which means blended educational strategies is often manifested among science teacher as perceived by STEM students in their chemistry class. High blended educational strategies by teachers can have a number of positive impacts on the learning and accomplishment of students.

This result has a significant implication that blended learning can help to keep students engaged, motivated, and successful by offering them a range of learning activities, tailored learning opportunities, and increased communication with teachers. Additionally, blended learning can provide students more freedom, save money, and improve teamwork. However, there are several challenges to implementing high integrated educational ideas into practice, such as the requirement for teacher preparation, sufficient funding, and family support. Despite these difficulties, blended learning is still a viable investment for schools due to its potential advantages.

The result corroborates the claim of Sharma and Shree (2023), which stated that upon their study the effects of various forms of education, such as online, F2F, and blended, on education in post-pandemic contexts within higher education. They discovered that blended education has much higher levels of facilitation than online and face-to-face instruction (e.g., program structure, active involvement, and feedback). In comparison to online and face-to-face learning, students said it was simpler to follow blended education courses, and they thought it provided an effective learning environment. Furthermore, the use of blended learning can have several advantages, including more learner flexibility, consolidated content, and chances to apply knowledge in practical situations (Tahir et al. 2022).

Level of Chemistry Learning Skills of Science, Technology, Engineering, and Mathematics (STEM) Students

The second statement of the problem in this study is to determine the level of chemistry learning skills of science, technology, engineering, and mathematics students.

Table 2. Summary of the Level of Chemistry Learning Skills of Science, Technology, Engineering, and Mathematics (STEM) Students

Chemistry Learning Skills Domains	Mean	Descriptive Level
Critical Thinking Skills	3.74	High
Collaborative Skills	3.82	High
Creativity and Innovation	3.75	High
Technology Application	3.91	High
Overall	**3.74**	**High**

Level of chemistry learning skills of STEM students in terms of; critical thinking skills; collaborative skills; creative and innovation; and technology application. Table 2 presents the learning skills of STEM students in learning chemistry. Among the domains mentioned above, technology application has the highest calculated average mean of
3.91 which has a high descriptive level. This means that technology application is exhibited highly satisfactory in students' learning skills in chemistry topics since it is incorporated with blended learning.

This result implies that individual student needs and learning preferences are catered through personalized and adaptive learning platforms, which encourage a customized educational experience. The availability of enormous online databases and

resources encourages independent inquiry and critical thinking abilities among students. Additionally, it is evident that the application of technology in learning process assist the students to better understand concepts in chemistry through various learning materials.

This result is in line with the study of Osman and Lee (2014) stating that providing students visual examples of chemical processes at the macroscopic, microscopic, and symbolic levels, multimedia can aid in their understanding of abstract chemistry ideas. Furthermore, through these interactive visual aids, digital tools can enhance in students' conceptual understanding. For instance, virtual laboratory animations can bridge the gap between the macro and micro worlds by assisting students in seeing atoms, ions, and molecules at the sub-microscopic level. (Herga et al., 2016).

The second domains that has the highest average mean of 3.82 is collaborative learning which descriptively interpreted as high. This suggest that collaborative learning skills is exhibited highly satisfactory since learning chemistry is effective through peer collaboration and interaction given that chemistry concept is difficult and needs to be actively discussed within the classroom.

This result implies that students gain a greater knowledge of chemical principles through peer interaction, active participation, and discussion of ideas while working on projects. The variety of viewpoints encourages innovation and critical thinking, while also fostering successful teamwork and communication. Moreover, collaborative learning promotes interactive discussion with the teachers and their classmates to have an effective exchange of ideas to better understand the topics in chemistry.

The result supports the study of Fakomogbon and Bolaji (2020) that teachers are equipped with collaborative teaching strategies to use collaborative learning as a strategy to facilitate learning and enhance student performance. Chemistry instruction and learning methodologies must enable students to interact, share knowledge, and develop their comprehension and problem-solving abilities. The collaborative learning technique is thus one of the greatest methods for teaching chemistry (Niyonsaba 2022).

The third highest among the domains is creativity and innovation which obtain an average mean of 3.75 with a high descriptive level. This suggest that student’s creativity and innovation skills are exhibited highly satisfactory.

This result implies that students are independent during their class discussions. It is evident that when the teacher allows their students to establish their own learning style, they will be able to retain and understand the topic being discussed. Fostering creativity and innovation in chemistry learning has far-reaching implications for students' growth and development. Additionally, student’s ability to venture their imaginative skills will help them foster their chemistry learning techniques.

The findings has been supported by the study of Tatli and Ayas (2013) that learning chemistry with the aid of a virtual laboratory may improve students' motivation and achievement in learning as well as obtaining chemicals and laboratory apparatus for the experiment. Exercises that encourage creative problem-solving might enhance students' chemistry learning skills. Additionally, the

application of laboratory-based critical and

creative thinking has a major impact on the development of creative thinking skills (Nuswowati & Taufiq 2015).

The lowest domain among chemistry learning skills of STEM students is critical thinking skills with an average mean of 3.74 which indicate with high descriptive level. Even though having the lowest among all other indicators, critical thinking skill is exhibited highly satisfactory among student's chemistry learning skills.

This implies that showcasing critical thinking skills among students allows them to analyze complex chemical problems, use deductive methods of understanding the chemical concept, and apply appropriate problem-solving skills. Having critical thinking skills among students helps them to widen their understanding about the concepts in chemistry which are very difficult to comprehend. Furthermore, it influences the learning process of the students resulting into an abstract reasoning.

In line with this result, a study of Utami et al. (2017) that students who possess critical thinking abilities are better able to reason through problems, draw conclusions, synthesize information, and evaluate situations both in and outside of the classroom. It is essential for academic success, especially in learning scientific concepts in chemistry and other fields of science. Critical thinking and chemistry are two qualities that go hand in hand. Students who study chemistry can improve their critical thinking abilities, while those who study critical thinking can benefit from studying chemistry (Siahaan 2021).

The overall mean average of chemistry learning skills of STEM students is 3.74 which indicates with high descriptive level. This means that the students' chemistry learning skills are exhibited highly satisfactory. It describes that the chemistry learning skills among STEM students are evident in the classroom set-up during blended learning sessions.

This implies that STEM students are highly equipped with a set of skills that is designed to participate and perform advanced chemistry topics in senior high school. Higher chemistry topics are more complex and complicated which widens the opportunity for the students to venture and delve into the topics. Anchored with blended learning strategies of teacher, students were able to actively participate in every blended learning activity prepared by the teacher.

The findings is supported by the study of Stanley (2022), the development of chemistry learning tools based on blended learning paradigms that foster students' of critical thinking skills in their learning experience. Additionally, according to the study of Hadisaputra, et al. (2020), that implementing blended learning in chemistry education can result in enhancements to students' achievement, metacognitive abilities, and self- efficacy. This means that blended learning promotes independent learning opportunities for the students in their learning skills on chemistry subject. (Supriyanto et al., 2020).

Significant Relationship between Blended Educational Strategies and Chemistry Learning Skills of Science, Technology, Engineering, and Mathematics Students

The third statement of the problem in this study is to determine the significant relationship between blended educational strategies and chemistry learning skills of science, technology, engineering, and mathematics students. Presented in table 3 the correlation coefficient, p value, decision on the hypothesis at a 0.01 level of significance, and with the statistical interpretation.

Table 3. Significance on the Relationship of Percieved Blended Educational Strategy Usage of Teachers and Chemistry Learning Skills of Science, Technology, Engineering, and Mathematics (STEM) Students

	CHEMISTRY LEARNING SKILLS			
BLENDED EDUCATIONAL STRATEGY USAGE	**r**	**p-value**	**Decision on H_o**	**Interpretation**
	.514	.000	Reject	Significant

Table 3 depict the significant relationship between the Blended Educational Strategy Usage of Teachers and Chemistry Learning Skills of Science, Technology, Engineering, and Mathematics Students and exhibited their relationship in the result. With an overall p-value of 0.000, the correlation is significant at a 0.01 level of significance. Thus, rejecting the null hypothesis (H_{01}) is the finding of this study which strengthen the relationship of two variables. The correlation coefficient of r = 0.514 shows a significant and moderate positive correlation between blended educational strategy usage of teachers and chemistry learning skills of STEM students.

The implication of this findings presents the interconnectedness of teaching strategies prepared by the teachers during online and face-to-face classes to the chemistry learning skills of STEM students. The significant positive correlation between blended educational strategy usage of teacher and chemistry learning skills of STEM students suggest that diverse blended learning strategies of teachers to address the different needs of students has a meaningful impact on the learning skills of STEM students especially in learning chemistry topics. This implies that blended learning is effective among STEM students in learning chemistry since students are also computer literate which also allow them to collaboratively work with their classmates.

Significant Influence of Perceived Blended Educational Strategy Usage of Teachers on the Chemistry Learning Skills of Science, Technology, Engineering, and Mathematics Students

The fourth statement of the problem in this study is to determine a domain of blended educational strategies that significantly influences chemistry learning skills of science, technology, engineering, and mathematics students. Presented in Table 4 the

data on which perceived blended educational strategy of teachers' domain has more influence to chemistry learning skill of STEM students.

Table 4. Significant Influence of Perceived Blended Educational Strategy Usage of Teachers on the Chemistry Learning Skills of Science, Technology, Engineering, and Mathematics Students

	Perceived Blended Educational Strategy Usage of Teachers						
	Unstandardized Coefficients		Standardized Coefficients				
Chemistry Learning Skills	B	Std. Error	Beta	t	Sig.	Decision on $H_0$2 at α 0.05 level of significance	Interpretation
Constant	1.221	.357		3.418	.001		
Chemistry Learning Skills	.565	.095	.514	5.926	.000	Reject $H_0$2	Significant Predictor

R = 0.514; R^2 = 0.264; F-value = 35.123; p-value = 0.000

The regression analysis reveals a significant influence of the perceived blended educational strategy usage of teachers on the chemistry learning skills of science, technology, engineering, and mathematics (STEM) students, as demonstrated by the unstandardized coefficient (B = 0.565) and the standardized coefficient (Beta = 0.514), both of which are statistically significant (t = 5.926, Sig. = 0.000). The rejection of the null hypothesis ($H_0$2) at the α 0.05 level of significance confirms that the perceived blended educational strategy usage is a significant predictor of chemistry learning skills among STEM students. This indicates that students who perceive a higher usage of blended educational strategies by their teachers tend to exhibit enhanced chemistry learning skills.

Examining the overall regression model, the collective impact of the perceived blended educational strategy usage on chemistry learning skills is evident. The model's overall significance is reflected in an R of 0.514, denoting a strong positive correlation between teachers' perceived blended educational strategy usage and students' chemistry learning skills. The R^2 value of 0.264 suggests that approximately 26.4% of the variance in chemistry learning skills is explained by the perceived blended educational strategy usage. The F-value of 35.123, coupled with a p-value of 0.000, underscores the statistical strength of the model. This implies that, collectively, the perceived blended educational strategy usage significantly contributes to the overall chemistry learning skills of STEM students.

The implication of these findings emphasizes the importance of educators' utilization of blended educational strategies in enhancing students' chemistry learning skills. The significant positive relationship between teachers' perceived blended educational strategy usage and students' learning outcomes highlights the potential of incorporating diverse instructional approaches. This suggests that educators who integrate traditional and online teaching methods can positively impact students' mastery

of chemistry concepts. Educational institutions may consider providing training and support for teachers to effectively implement blended strategies, thereby fostering an enriched learning environment for STEM students.

Conclusions

The data gathered from the Science, Technology, Engineering, and Mathematics students draws the following conclusions:

The level of blended educational strategy usage of teachers as perceived by the STEM students is high. This indicates that the blended educational strategy of teachers provides a wide range of opportunities for the STEM students in learning chemistry. The teaching strategies prepared by the teacher which incorporate technology also allow the students to participate well in every discussion and activity.

The level of chemistry learning skills of science, technology, engineering, and mathematics students is high. This indicates that the chemistry learning skills of STEM students allow them to productively perform in online and on-site discussions. STEM students effectively apply learning skills which enhance their scientific understanding and attitude in learning chemistry.

The perceived blended educational strategy usage of teachers and chemistry learning skills of science, technology, engineering, and mathematics students shows a strong significant relationship. This indicates that various blended learning strategies of teachers contribute to the learning process skills of STEM students in chemistry subject.

Perceived blended educational strategy usage of teacher influence the effective chemistry learning skills of science, technology, engineering, and mathematics students. The findings indicate that blended educational strategies of teachers tend to enhance the chemistry learning skills of the STEM students which significantly contributes to the overall chemistry learning skills of STEM students.

Recommendations

Department of Education. Based on the significant relationship of perceived blended educational strategy usage of teachers and chemistry learning skills of STEM students, it is recommended that Department of Education must provide professional development programs for the teachers especially in technological integration in teaching chemistry. This will allow the teachers to effectively integrate technology in their teaching process that will aid them in teaching chemistry during online and face-to-face activities.

School Administration. School administration should collaboratively communicate with the teachers to strengthen the teaching competence in integrating technology as part of the teaching process in chemistry subject. This can be achieved by providing support and resources such as technological equipment that can be used in blended learning approach.

Science Teacher. Science teachers should continue to actively participate in any professional development such as training and seminars in the usage of technology in education. This will allow them to widen their understanding on the usage of technology in integrating in formulating teaching strategies for STEM students. Moreover, science teachers must be innovative in implementing student-centered and active learning strategies that promote critical thinking skills, collaborative skills, and technological application.

Students. Students should equip themselves with technological knowledge and application to effectively participate in blended educational settings. Additionally, students should be provided with access to the basic technologies that are essential in their academic success.

Future Researcher. Future researchers can explore other educational strategies that enhance the chemistry learning skills of STEM students. They can conduct longitudinal study design to monitor shifts over time in both student learning results and teacher practices.

Overall, it is recommended that all stakeholders in the field of education should work collaboratively to provide an effective educational approach in blended learning. Continuous improvement and sustainable support programs and essential to ensure a high-quality of learning that will be received by the students that will allow them to become scientifically competent.

Ethical Considerations

The research emphasizes the importance of ethics in scientific inquiry, acknowledging the necessity of adhering to ethical norms throughout the research process. It underscores several key moral principles, including social value, informed consent, risk assessment, benefits, safety, privacy, confidentiality, justice, transparency, researcher qualification, adequacy of facilities, and community involvement. The study examines the transition to blended learning in educational institutions due to the COVID-19 pandemic and its impact on students' chemistry learning skills. It emphasizes the importance of obtaining informed consent from participants, ensuring their understanding of the research's purpose, risks, and benefits. Privacy and confidentiality are maintained through the use of secure data collection methods and the protection of respondents' personal information. The researcher's qualifications and commitment to ethical conduct are highlighted, as well as the involvement of the community in the research process. Through transparency and community engagement, the study aims to contribute to the advancement of knowledge while upholding ethical standards and respecting participants' rights.

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COMBATING INFLATION: THE CASE OF AMBULANT VENDORS IN THE CITY OF KORONADAL

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ABSTRACT

This study delved into the experiences on combating inflation of the three ambulant vendors in the City of Koronadal. The study utilized a multiple – holistic qualitative case study which allowed to closely look at the participants' experience of inflation, and of combating it and the interventions provided by the government to them. The researchers conducted a one-on-one interview aided by an interview guide and observation checklist to gather the data and information needed for the study. The results indicated that the ambulant vendors faced price fluctuations in both the commodities they purchased and the products they sold, prompting changes in purchasing behavior. Despite the challenges, the vendors exhibited resilience by adopting proactive strategies to mitigate the effects of inflation. However, they also raised a concern on the absence of financial assistance of the government which may help them lessen the impacts of inflation. To address this concern, the researchers recommended a clearer and more concise governmental support to help them combat inflation.

Keywords: *Ambulant vendors, experiences, combating inflation, intervention of the government*

INTRODUCTION

An economy's average price level consistently rising is referred to as inflation (Andres & Hernando, n.d). It occurs when the average price level increases over time which Kirshner (2011) argued that political conflicts, are the cause of inflation at all rates, high and low. For instance, the Russian invasion of Ukraine is cited to continue to affect the world's supply chains thus worsening the inflation. Due to war's shortages and escalating food prices, there is now more food and services insecurity which greatly affect vendors especially those who own a small business like street or ambulant vendors (Nyagudi, 2022).

Inflation can impact the global economy both individuals and businesses. It diminishes the purchasing power of money so people must spend more money to acquire the same quantity of products and services. This can result in a decline in living standards for many individuals (Fernando, 2023). According to the International Monetary Fund (IMF), world inflation reached 8.8% in 2022. The prognosis is adversely impacted by the rising cost of living, tightening financial conditions across the board, Russia's invasion of Ukraine, and the persisting COVID-19 pandemic. Forecasts predict that the rate of global inflation would increase from 4.7% in 2021 to 8.8% in 2022 before falling to 6.5% in 2023. In the Philippines, the Philippine Statistics Authority (2023) data show that the Philippine inflation rate marginally slowed down to 8.6% in February 2023, from 8.7% in January 2023, and it continued to decline to 7.6% on March 2023. In South Cotabato, the inflation rate, increased from 7.3% in January 2023 to 7.6% in February 2023, but it slowed down to 7.3%. As stated by Homes (2022) in the Philippines, inflation raised production costs, including raw material, labor, and other inputs, reducing vendors profitability and slowing economic activity.

Inflation is believed to affect the ambulant vendors (Ordinario, 2021). Ambulant vendors are individuals who sell goods or services on the streets, often in urban areas. In countries experiencing high inflation, these vendors may face challenges related to pricing, demand, and supply (Buzzell, 2014). Furthermore, Chen, & Simchi-Levi (2012) claimed that the escalation in prices of goods and commodities is attributed to the Law of Supply and Demand underscores the importance of aligning consumer preferences with product demand. This highlights that the supply-demand imbalance in the dual- channel supply chain can have a significant impact on optimal pricing and inventory strategies. Inflation results in the loss of sales to larger competitors who offer lower prices or better deals, ambulant vendors who need significant sales volumes to stay profitable may find this difficult (Weber, 2020). That is why some ambulant vendors choose to buy in wholesale to save money and some buy in retail everyday to avoid spending much and there are some who depends on their salary that is based on their quota. Inflation can cause prices to rise rapidly and unpredictably, making it difficult for ambulant vendors to set prices that are both affordable for their customers and profitable for themselves. They may struggle to keep up with changing prices and may find that their profit margins are shrinking as the cost of goods and services increase

(Recchi, 2021). Furthermore, inflation may increase demand for certain goods and services, as consumers seek out cheaper alternatives to more expensive products.

According to Zhu and Simarmata (2015), in some cases, inflation may also lead to shortages of certain goods, which can make it difficult for ambulant vendors to find the products they need to sell. This can lead to reduced sales and income and may force vendors to diversify their offerings or switch to selling alternative products. As the data presented by the DTI the City of Koronadal in the year 2022 has the biggest revenue in South Cotabato in their economic activity that have the total amount of Php 1,204, 850, 160.49. According to Hayes (2023) revenue is the money earned through routine business operations. It means that a higher revenue a higher economic activity which means that a lot of vending activities is happening.

In the City of Koronadal, the City Treasurer office states that in the year 2023 there are approximately 236 ambulant vendors who contributed to daily vending activities of the city and at the same time they are experiencing and continuing to combat the political phenomenon of inflation. In addition, the LGU of City of Koronadal estimates that there were 236 regular ambulant vendors, 34 salary-based ambulant vendors, and 15 occasional ambulant vendors in the month of April.

This study identified a group of ambulant vendors in Koronadal City as the researchers found out that they were one of the significant groups that directly deal with inflation and have a hard time combating the effects of the phenomenon. The researchers intend to describe the phenomenon of combating inflation by the ambulant vendors using a case study approach and through the lens of Modern Liberalism.

Research Questions

Generally, the study aimed to describe the phenomenon combating inflation as experienced by the ambulant vendors in the City of Koronadal.

Specifically, it answered the following questions:

1. How do the ambulant vendors experience inflation?
2. How do the ambulant vendors combat inflation?
3. What are the interventions provided by the government to the ambulant vendors?

METHODOLOGY

Research Design

The design of the research study is a Multiple - Holistic case study. It focused on the ambulant vendors of the Koronadal City on their mechanism to combat inflation. The identified participants are the regular ambulant vendors, occasional ambulant vendors, and salary – based ambulant vendors in the City of Koronadal. The regular ambulant

vendors go about their everyday business of selling their product. They purchased everyday raw materials and necessary ingredients in their livelihood to maintain their vending business. Occasional ambulant vendors would operate by intervals depending on whether their space is filled by another seller or not, and it would only engage in selling activities if there were an event that was taking place, such as a festival or Valentine's Day. The Salary-based Ambulant vendors are those who are paid a salary and whose business equipment is owned by someone else and who are compensated based on a percentage of their daily sales quota. Multiple Holistic approach will be utilized to describe the experience of the ambulant vendors in combating inflation. It allowed the researchers to compare the commonalities and differences in multiple perspectives and it will give a better approach in the formulation of the data given by the participants considering that they form in a same unit of analysis but draw a different context in every aspect of vending activities to combat the existing phenomena.

The researchers conducted face-to-face in-depth interview which is the most suitable and conducive instrument for collecting the necessary data. A face-to-face interview is a form of data collecting in which the interviewer talks directly with the participant in line with the prepared questionnaire. This method allows for the collection of factual information, participants assessments, attitudes, preferences, and other information gleaned from the respondent's dialogue. In-depth interviews were conducted by the researchers in order for them to have detailed information about on combating inflation regarding on their experiences, and challenges and coping mechanism. In the analysis of the data, the researcher used thematic analysis to create themes that describe their experience to combat inflation and cross-case analysis that allows the comparison of the commonalities and differences and to have a general overview on the experiences of the ambulant vendors in the City of Koronadal.

Setting

This study was conducted in the City of Koronadal, South Cotabato. It is located in Southern Mindanao, in the province of South Cotabato and a third-class component city in the Philippines. It is the seat of the provincial capitol of South Cotabato and one of the province's only two cities. Koronadal is currently a rapidly growing growth economic hub comprised of twenty-seven (27) barangays, including the poblacion's four (4) zones. Being the capital city of South Cotabato, it serves as the province's political, cultural, and socioeconomic hub.

The researchers chose this particular setting because it is the capital of the province and it is around where most of the vending and other economic activities are done by the locals. In particular, there are approximately 286 ambulant vendors residing in City of Koronadal who experienced the political phenomenon of inflation. Moreover, based on the records by the LGU of City of Koronadal, there is an estimate of 236 regular ambulant vendors, 34 salary-based ambulant vendors and 15 occasional ambulant vendors for the month of April.

Participants

The researchers identified the prospective participants of this study based on the inclusion criteria set by the researchers. First, the participants must be an ambulant vendor living in the City of Koronadal. Second, the participants must at least have 5 years of vending here in City of Koronadal and have selling any kind of goods or offering repair services. Third they are willing to participate in the study and have agreed to be interviewed.

The participants of this study were three (3) vendors in the City of Koronadal. They spent numerous years in vending in a different location around in the City of Koronadal and trying to survive their livelihood as a vendor despite the effects of the inflation. They have different contextual conditions. Participant 1 is a Regular Ambulant Vendor who does his vending activities daily; participant 2 is an Occasional Ambulant Vendor who does her vending activities during major events; participant 3 is a Salary – Based Ambulant Vendor who does her vending activities with a consistent salary.

Participant 1: Regular Ambulant Vendor (RAV)

The first participant is a 32-year-old fruit vendor, a resident of Barangay GPS in Koronadal City. He has been in the business for eight (8) years, starting in 2015. This dedicated family man lives under one roof with his wife, three (3) children, and his parents. His business took an unexpected turn when the COVID-19 pandemic disrupted the usual flow of life. Before the pandemic, he used to sell his selection of fresh, seasonal fruits in the Koronadal City Public Market. However, due to the strict safety protocols and concerns posed by the pandemic, he had to adapt and relocate his stall. He now operates near the highway of Marbel 1 Elementary School on Morales Avenue, conveniently close to his home.

Participant 2: Occasional Ambulant Vendor (OAV)

The second participant is a 38-year-old ukay-ukay seller who has been in the business for more than five years. She operates three stalls around the city, though they are temporary and are primarily set up during significant occasions such as the T'nalak Festival or the Charter Anniversary. Her day typically begins at around 7 in the morning when she sets up her stall, and she keeps it open until the end of the event or late at night when the number of visitors dwindles. She does not limit her operations to the physical stalls; she has also expanded into online selling. Her primary business involves offering secondhand clothing items at affordable prices.

Participant 3: Salary-based Vendor (SAV)

The third participant is a 23-year-old salary-based vendor from Koronadal, South Cotabato. For the past five years, he has been working in an *aripahol* business. This food business has been around for nine years and has multiple branches in different locations within the city. The vendor's stall is strategically located beside the City Health Office, right next to a street crossing. He works for his cousin, whom he met under unfortunate circumstances – during an accident. This led him to *aripahol* vending, where he now helps his parents earn money for his school expenses. His workday begins at 7 in the morning

and concludes at 7 in the evening. Rain or shine, he diligently works to sell food products to passersby. His dedication is further rewarded by the fact that the business owner provides him with all the necessary ingredients and equipment. Additionally, his unique work arrangement grants him incentives such as free boarding, food, water, and electricity, as his boss happens to be a relative.

Instruments

In this study, the researchers used two (2) instruments namely: observation checklist and interview guide. Observation checklist is a record of events, conversations, and behaviors observed in the field, as well as the researcher's reflections on them. Then, the researchers formulated an original interview guide based on our specific research problems. The research interview guide is the most basic interview guide but contains the primary data of the study and the interview data as well. The instrument is subject to extensive examination and thorough deliberation through constant consultation with the thesis adviser. After the consultation, the instrument used by the researchers in their one- on-one and face-to-face interview with the participants of the study. A set of questions were put together with the purpose to obtain necessary data and information to describe the experiences in combating inflation of the vendors in City of Koronadal. It consists of the three major questions that will help the researchers to gather and generate data. The first question of the interview guide pertains to how the ambulant vendors experience inflation; the second question asks about how the ambulant vendors combat inflation; and the third question asks about the intervention provided by the government to the ambulant vendors.

Data Gathering Procedure

First, the researchers conducted a direct observation in the community in order to identify the current situation of the ambulant vendors and their experience in combating inflation. Second, the researchers conducted an interview dry run and generated an initial analysis to have a preliminary data about their experience on combating inflation and before the official interview, the researchers asked permission from the Dean of the College of Arts and Sciences of Notre Dame of Marbel University. After the researchers acquired the required signatories and consent, the researchers went to the place where vendors do their vending business.

The researchers then introduced themselves to each participant during a subsequent visit. Next, the researchers adhered to the necessary ethical standards during the conduct of the study and presented the consent letter to the participants following the interview. Then, with the help of the interview guide, the researchers conducted one-on- one and in-depth interviews with the three vendors selected as the study's cases in order to collect the necessary data until the study was complete.

Throughout the duration of the discussion, the three ambulant vendors described their experiences with inflation, on how they combat inflation, and the intervention provided by the government to them. All data and information were gathered and collected using an audio-recorded file, which were carefully analyzed. The recordings were deleted after the finalization of the study.

Data Analysis

The interview data were transcribed verbatim. Identified the significant statement, then directly address the interview questions that had been drawn and analyzed individually to draw out their meaning. Formulated meanings for each of the significant statements were crafted and concepts were assigned. The concept in turn were clustered and their common themes were drawn to answer the specific research problems.

After analyzing each of the case, cases 1 and 2 werer cross-analyzed. Similarities and differences between the themes of each case was drawn out the analysis. Findings were cross-case analyzed with the case 3 to drawn out the similarities and differences of the themes.

The study used a thematic analysis based on Braun and Clarke and cross-case analysis drawn from the paradigm of Yin as the primary means of data analysis in this study. Thematic analysis was used to understand the patterns of meanings from the data on the experiences of the vendors in the City of Koronadal. After the researchers used thematic analysis, cross-case analysis was also used to thoroughly understand and describe the comparison and commonalities based on the themes and meanings from the experiences of the vendors as they battle to combat the inflation.

Limitation of the Study

The subject of this study is limited only to the ambulant vendors residing in the City of Koronadal. The respondents were selected through the inclusion criteria, and through the face-to-face in-depth interview, the researchers gathered and recorded all necessary data. The researchers limited the number of participants to a regular ambulant vendor, an occasional ambulant vendor and a salary-based ambulant vendor; they are the only main source of data.

The limitation also includes the availability of data and information regarding the profile of ambulant vendors in the City of Koronadal taken from the city government. Another condition that limits the study is the option of ambulant vendors to refuse to participate due to their busyness engaging in their business or other personal reasons. Other unavoidable limitations of the study include time limit, budget, and the openness of the identified ambulant vendors.

RESULTS and DISCUSSION

This section presents the results of the study on how the ambulant vendors in the City of Koronadal experience inflation, combat inflation and the interventions provided by the government. The succeeding sections are organized based on the identified cases of the study.

CASE 1: RAV (Regular Ambulant Vendor)

The first participant is a 32-year-old fruit Regular Ambulant Vendor, a resident of Barangay GPS in Koronadal City and at the same time an alumnus of Notre Dame of Marbel University. He has been in the business for eight (8) years, starting in 2015. This

dedicated family man lives under one roof with his wife, three children, and his parents. His business took an unexpected turn when the COVID-19 pandemic disrupted the usual flow of life. Before the pandemic, he used to sell his selection of fresh, seasonal fruits in the Koronadal City Public Market. However, due to the strict safety protocols and concerns posed by the pandemic, he had to adapt and relocate his stall. He now operates near the highway of Marbel 1 Central Elementary School at Morales Avenue, conveniently close to his home. Now he is currently selling variety of fruits with the help of his nephew. He wakes up at 4 a.m. to ready the fruits for selling, commencing his vending activities by 7 a.m. and continuing until 7 p.m. His merchandise includes avocados, lanzones, rambutan, and durian. Furthermore, He always sells his products daily in the same location. He owns the business and establishes his locations in an exact same place every day. With this, they are one of the participants of the interview that was conducted last August 15, 2023, at 2:00 in the afternoon. He shared and answered the questions attentively and willingly. He was incredibly attentive and enthusiastic to share his experience on inflation, on how he combats inflation and the intervention of the government provided to address inflation.

The next sections show the themes from the significant statements of vendor about their experiences during inflation.

Experience of Inflation by Regular Ambulant Vendor (RAV)

This section provides the themes of ambulant vendors in their experience during inflation period, their most difficult experience during inflation period, their perceived reason of the increased prices and commodities and their perceived effects of increased price and commodities.

Vending Experience of RAV During Inflation

During Inflation, price fluctuating is experienced by the regular ambulant vendor (RAV) due to the availability (or unavailability) of product as well as the gasoline price fluctuation.

In table 1 RAV talked about his experiences during inflation in which the themes are increased supply of in season fruits making the price lower than usual and increased price of gasoline which make the price of fruits higher than usual. RAV stated that "*Gaabot tanan kilo sang tig 15-20 ang kilo sang rambutan kag lansones pag season, pero subong daw dira na lang sya sa 30-40 per kilo, nag epekto gd."* This was explained by Silver (2016) that during an inflationary period, the doubling of fruit prices can be attributed to a confluence of factors, primarily rooted in the demand-pull theory of inflation. The demand- pull theory of inflation posits that changes in the level of aggregate demand within an economy are the primary drivers of inflationary pressures.

Furthermore, RAV also shared insights into his experiences during inflation with the theme increased price of gasoline which make the price of fruits higher than usual. RAV stated the price of gasoline necessarily results in increase of prices. He said that *"Dati ang mangga mahal kai 150 to 180 kag kis a pa kalab ot mana 200/kg na, tung mahal pa na ang gasoline".*

Table 1. Vending Experience of RAV During Inflation

Significant Statements	Formulated Meanings	Themes
tao gareklamo kai sa kamahal kailangan man kami magpataas kai gagamit kami gasoline	People were complaining because of expensive price of fruits cost of transportation of fruit production and distribution, which involve gasoline usage, has increased, leading to the adjusting the price of the fruits to accommodate these rising costs	Dissatisfaction of customers in terms of pricing Increasing the price of the fruits
Significant Statements	**Formulated Meanings**	**Themes**
Gaabot tanan kilo sang tig 15,20 ang kilo sang rambutan kag lansones pag season, pero subong daw dira na lang sya sa 30, 40 per kilo, nag epekto gd. Pero daw subong nga 2023 daw nagbaba na ang 874asoline, medyo nagbarato man ang baraklon. Dati ang 874asol mahal kai 150 to 180 kag kis a pa 874asoline mana 200/kg na, tung mahal pa na ang 874asoline.	During Lansones and Rambotan season, price per kilo is cheap. Now, the price has doubled As price of gasoline drops, the price of commodities also drops.	Price fluctuation due to - availability or unavailability of products and - gasoline price fluctuation

Most Difficult Experience of RAV During Inflation

During Inflation, RAV most difficult experiences are dissatisfaction of customers in terms of pricing and increasing the price of the fruits.

Table 2. Most Difficult Experience of RAV During Inflation

Table 2 shows the themes of the RAV's most difficult experiences during inflation. During the interview, he shared that, there are customers who complained about the high prices of fruits. *"Ang tao gareklamo kai sa kamahal*" he said. As prices rise, consumers find that the same amount of money can buy fewer goods and services. This experience according to Edward (2000) can lead to dissatisfaction and frustration among the population, especially those on fixed incomes. Moreover, RAV added that with the high cost of transportation he is left with no choice but to increase the price of the fruits he sells albeit grudgingly. He stated "*kailangan man kami magpataas kai gagamit kami gasoline".* This was confirmed in the study by Forage (2023,) he said that as the gasoline continue to rise and inflation continue to exist, vendors should also adjust their prices to maintain their profit and income in their business. Inflation leads to an increase in the cost

of production. Businesses may face higher expenses for raw materials, labor, utilities, and other operational costs.

Perceived Reason for the Increased Prices of Commodities of RAV

In the surge of inflation, the RAV perceived factors affecting the price increase, the table 3 below shows the RAV perceived reasons of the increase prices and commodities which are the External Factors and Procedural Factors.

RAV perceived reasons for the increase prices and commodities on what he experiences and notices during the inflation period. This was supported by the findings of Zhao (2021) that ambulant vendors, like many individuals in various sectors, may have perceptions about the reasons for inflation. As for the RAV, he emphasized that the *"number 1 [factor] is …gasoline".* Referring to the procedural dimension of production, he stated that*, "…maagi pa na sa harvester kag sa financer kag patungan pa nila na, itrucking pa"* Weather, for him is also a factor as he said that *".ning tig ulan. Pero may time gd abi nga may weather nga di magbunga ang prutas*. This claim was confirmed by Wichmann, Uppal, Sharma, & Dekimpe, (2022) in their study, they explained that understanding the interplay between these external and procedural factors is essential for businesses, and consumers to navigate the complexities of price determination in an economy.

Table 3. Perceived Reason for the Increased Prices of Commodities of RAV

Significant Statements	Formulated Meaning	Themes
number 1 gani gasolina. tapos maagi pa na sa harvester kag sa financer kag patungan pa nila na, itrucking pa Kis a siguro, ning tig ulan. Pero may time gd abi nga may weather nga di magbunga ang prutas	The gasoline is the primary cause of the high prices of goods Another factor of causing high prices is the cost of the procedure from harvester, financer and supplier Another factor of the high prices is on the season or weather	Factors affecting the prices, such as: **External:** gas price, weather condition **Procedural:** shipping, production

Perceived Effects of Increased Prices of Commodities to RAV

The table 4 below shows the themes of the RAV perceived effects of the increased prices of commodities. He answered a feeling of disappointment and income or profit loss due to: Few products being sold and spoilage.

Inflation, as a pervasive political phenomenon, affects the ambulant vendors in various ways. RAV shared that because of inflation few were being sold which resulted in the spoilage of a large number of fruits, he said "*mabulukan ka pa dako man ang maloss sa imo, amo na sya isa pa na"*. He emphasized that there is a great loss to his income whenever fruits were spoiled, according to him "*mabulukan ka pa dako man ang maloss sa imo, amo na sya isa pa na".* The effect of the inflation to the RAV was explained by Garg (2022) he said in his study that the effects of this phenomenon can jeopardize the

financial stability of the business. It may impact the ability to invest in improvements or expansion

Table 4. Perceived Effects of Increased Prices of Commodities to RAV

Significant Statements	Formulated Meanings	Themes
syempre ma dismaya ko mabulukan ka pa dako man ang maloss sa imo, amo na sya isa pa na. Pag hindi mabakal pagkabwas madunot na sya. Wala na, malugi ka na sina	Disappointed When price of fruits is high, few customers buy fruits resulting further in spoilage and eventually, income or profit Loss of profit due to unsold fruits	Income/ Profit loss due to: 1. Few products being sold due to high price 2.Spoilage

Regular Ambulant Vendor on Combating Inflation

This section provides the identified themes of regular ambulant vendor in combating inflation. This includes the strategies and ways of the ambulant vendors on how they combat inflation. Lastly, it includes the challenges and difficulties faced by the ambulant vendors it is combating inflation.

Strategy of RAV to Combat Inflation

The table 5 shows the identified themes of the regular ambulant vendor use strategies of RAV to combat inflation which includes the adaptation strategies to mitigate the impacts of inflation.

Table 5. Strategy of RAV to Combat Inflation

Significant Statements	Formulated Meanings	Themes
katu kai free delivery mo amo to ang offer ko sa ila. pasuki suki gihapon. Ang mga suki ko ara gihapon. Nagbalhin lang ko sa elementary banda katong pandemic kag tong pagtaas sang presyo, Nagbaylin kami didtu sa highway banda kai ginaagyan ka lang sang mga tao sa gawas na lang ko parehas sa highway banda.	Offering a free delivery service to the consumers Acquiring a loyal and regular customer to ensure profit Change location near the highway where mostly people pass	Adaptation strategies to mitigate the impacts of inflation

RAV combat inflation with the theme adaptation strategies to mitigate the impacts of inflation. RAV utilizes various strategies to alleviate the effects of inflation such as, offering a delivery service, acquiring a loyal customer and changing the location. First strategy he utilized is he changed location to attract more customers, he stated that *"Nagbaylin kami didtu sa highway banda kai ginaagyan ka lang sang mga tao*," he also emphasized the importance of having a loyal customer as a strategy to ensure profit, he stated that "*pasuki suki gihapon. Ang mga suki ko ara gihapon."*. Lastly, he pointed out the need for flexibility as he was offering a free delivery service to his consumers he said "*katu kai free delivery mo amo to ang offer ko sa ila.".* These utilizing strategies was explained by Mecalux (2017) as he stated that adapting several strategies can mitigate the impact of inflation and implementing innovative marketing strategies allows businesses to navigate rising expenses associated with inflation, helping to maintain or improve profit margins. on the cost of goods and services.

Ways of RAV to Combat Inflation

The table 6 shows the identified themes of the regular ambulant vendor his way and style to combat inflation which is the RAV became thrifty to save money.

Table 6. Ways of RAV to Combat Inflation

Significant Statements	Formulated Meanings	Themes
Gacontrol lang gd sang baraklon eh Tapos waay na gd kaayo kami galagaw sa mall Siguro kis a ga tyanggi tyanggi na lng gd kami. Di na mabakal sang isa ka gallon nga mga tuyo, or vinegar tyanggi tyanggi na lang sachet na lang anay.	Limiting the purchasing behavior to avoid spending much Restricting ourselves to purchase in the malls Choosing to purchase in a neighborhood sundry store to avoid spending much Choosing to purchase retail rather wholesale	RAV became thrifty to save money

Thrifty individuals are more intentional and selective about their purchases. They carefully consider whether an expense is necessary and if there are more cost-effective alternatives. RAV emphasizes that one of his ways to combat inflation and lessen its impact is to become thrifty in his buying behavior. He stated that "*Gacontrol lang gd sang baraklon*" This was affirmed by Ailawadi, K. L., Neslin, S. A., & Gedenk, K. (2020) that thrifty individuals are adept at strategic shopping. They seek out sales, discounts, and utilize coupons to secure the best deals and one way to mitigate inflation. Moreover, they

opt for generic or store brands, recognizing that quality need not always come with a hefty price tag.

Challenges and Difficulties of RAV to Combat Inflation

The table shows the themes of the challenges and difficulties of regular ambulant vendor to combat inflation which is reduced buying behavior.

Table 7 Challenges and Difficulties of RAV to Combat Inflation

Significant Statements	Formulated Meanings	Themes
budlay mag dispose gd Di ko maka kompra sang damo kai mahal Nabudlayan ka mag dispose sang baligya kai dati makadispose ko sang sobra hundred kilos per day pero sang inflation na dira na lang sa 30 kilos Ti naggamay ang sales ko kai ang nagnubu ang akong produkto	Difficulty in selling fruits to customers Cannot purchase wholesale products because of high cost Difficulty in selling fruits to customers and decreasing the sales during high inflation rate Sales were decrease because of limited products	Reduced buying behavior

Table 7 shows the reduced buying power poses a significant challenge in combating inflation. In the study of Hayes (2015), if the buying behavior of the individual diminishes, individuals and businesses face several difficulties that can affect their financial well-being. This was shown on the experiences of the RAV when he said that his sales were decreased because of the products unsold due to the reduced buying behavior of the consumer. He stated that "*Ti naggamay ang sales ko kai ang nagnubu ang akong produkto"*. In addition, he himself also had a hard time as a consumer and not a vendor because before, he can buy things for his business a larger scale but due to inflation it reduces. He said that*: Di ko maka kompra sang damo kai mahal*. In that same article of Haynes (2015), he confirmed that a significant change in buying behavior can lead to a decline in the standard of living. Individuals may find it challenging to afford the same level of goods and services they enjoyed before, affecting their overall quality of life.

Government Interventions provided to the Regular Ambulant Vendor

This section provides the identified themes of regular ambulant vendor in the government intervention provided by the state. This includes the assistance and any forms of help from the government.

Interventions of the Government to RAV

Table 8 shows the themes of the interventions of the government to mitigate the impacts of inflation which the themes identified that RAV did not receice any kind of financial assistance from the government.

Table 8 shows the lacking financial assistance of the government. The programs offered by the government seems to be impossible to fulfill by an ordinary citizen. In the study of Igudia (2019), he states that since ambulant vendors often do not pay formal taxes, the government might not feel obligated to provide them with financial assistance. This is in reality as was experienced by the regular ambulant vendor, stating that … *Gahatag man lang abi na sila sa ila nga programa kung daw makita nila nga may pigado..* In his statement, he confirms that sometimes the government does not felt obligated to provide financial assistance to him. Also, RAV directly said that he did not feel any assistance from the government but upon the observation of the researchers with the help of observation checklist, they observed that there are constant police officers roaming around in his area. This is aligned in the ideals of Thomas Green in his Modern Liberalism. According to the theory of Modern Liberalism, it states that the government will focus on the security and give the people the freedom in their own business.

Table 8. Interventions of the Government to RAV

Significant Statements	Formulated Meaning	Themes
wala pasila kahatag sang bulig. Kay syempre di ko qualified abi. wala gihapon. Gahatag man lang abi na sila sa ila nga programa kung daw makita nila nga may pigado nga ano. daw di ko man abi maramdaman ang kwan sang gobryerno ba di namon mabal an nga ila nga mga programa. Waay man ko to nag apply tung TUPAD para sa trabaho no. wla man ko kaapil sato.	None. Vendors Did not receive any help due to qualification requirement None. Government only aid when it became obvious that poverty is beyond the line. None. vendor cannot Feel the Assistance of Government Vendor don't know the existing programs Vendor did not apply to TUPAD, (an assistance provided for the ambulant vendors)	The Vendor did not receive any kind of financial assistance from the government

Schematic Diagram of RAV Themes

The schematic diagram serves as a comprehensive synthesis of the prevailing themes derived from the analysis of significant statements. It encapsulates a wealth of information that directly addresses the core research problem. Within the diagram, themes are artfully represented through a symbiotic interplay of symbols, arrows, and lines. These graphical elements not only identify the relationships between various components but also offer a visual narrative that elucidates the intricate

interconnectedness of the identified themes. Upon distinguishing the themes that experienced by RAV during the inflation, it was evidently recognized that increased price of gasoline, high demand on supplies and products, and limited supply chain are leading causes of inflation. It is enclosed within one setting to highlight the key components to why products increased in prices. The two-sided arrow with dashed lines indicates interrelatedness of factors such weather condition and of seasonal products as well as the transportation challenges to sudden price increased of products of the vendor, that could lead to potential loss of income due to customers dissatisfaction and probably spoilage of products. The curly braces are used to correlate the variables of existing factors of vendor during inflation to separate it from how the adaptation of strategies to combat inflation are utilized. It was seen that thrifty behavior and reduced purchasing power of vendor shows interrelatedness, and the result of the vendor's strategy. Government aid and programs are separate variables to distinguish how was the vendors are capable of living with or without the intervention of the government, thus curly braces are also used. However, it was shown that vendor is not knowledgeable about it.

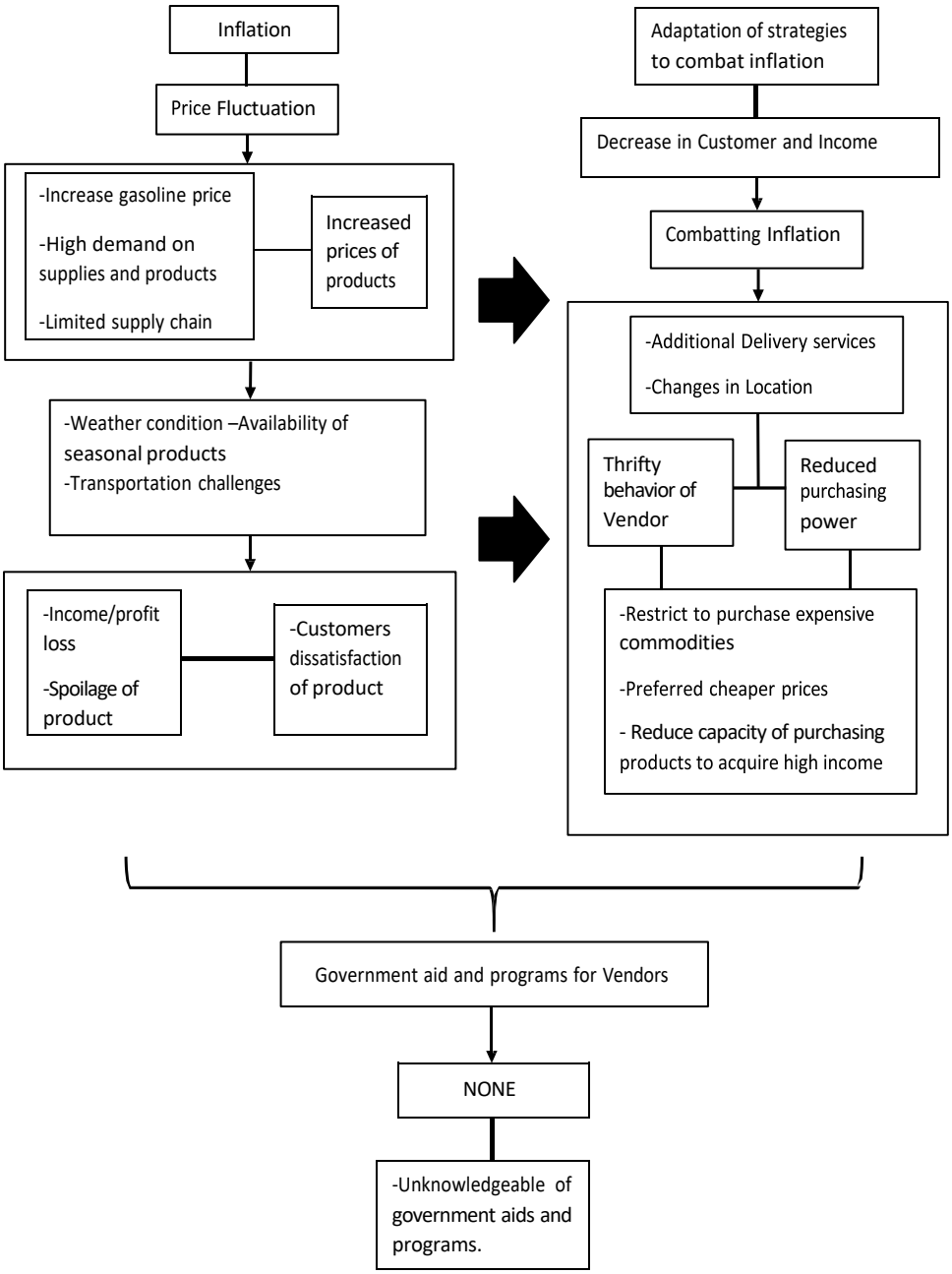


Figure 1. Schematic Diagram of the themes of RAV

CASE 2: OAV (Occasional Ambulant Vendor)

OAV is a 38-year-old ukay-ukay seller who has been in the business for more than five years. She in an Occasional Ambulant Vendor who does not sell daily, only for some special Filipino events to sell her goods or merchandise. She setsup her business only during major events. She does not have a permanent location to do her vending business,

only on during the locations provided by different LGUs during an event. In this case, she sells her products on the Charter Anniversary of the City of Koronadal. She operates three stalls around the city, though they are temporary and are primarily set up during significant occasions such as the T'nalak Festival or the Charter Anniversary.

Currently her ukay-ukay business is in front of Rizal Park in City of Koronadal while it celebrates its charter anniversary. Her life and livelihood here typically begin at around 7 in the morning when she sets up her stall, and she keeps it open until the end of the event or late at night when the number of visitors dwindles. She does not limit her operations to the physical stalls; she has also expanded into online selling. Her primary business involves offering secondhand clothing items at affordable prices. The life of this ukay-ukay seller is one of adaptability and seizing opportunities, often aligned with the city's major events and celebrations.

The next sections show the themes from the answer of the occasional ambulant vendor about her experiences during inflation.

Experience of Inflation by Occasional Ambulant Vendor (OAV)

This section provides the themes of occasional ambulant vendors in their experience during inflation period, their most difficult experience during inflation period, their perceived reason of the increased prices and commodities and their perceived effects of increased price and commodities.

Vending Experience of OAV During Inflation

The table 9 shows the themes of the occasional ambulant vendor experiences during inflation period which she experienced Financial Constraints.

Table 9. Vending Experience of OAV During Inflation

Significant Statements	Formulated Meanings	Theme/s
kis-a kulang pa ang benta namon sa amon needs adlaw-adlaw ...Di kaayo kusog ang sales.	money earned from vending sales is insufficient to cover the daily expenses financial earnings are relatively small	Financial constraints

OAV as an ambulant vendor who does her vending business on some major events such as festivals or anniversaries is also affected by inflation. She shows her dissatisfaction as she experienced moving in her business in a tight budget and having financial constraints. She stated that*." kis-a kulang pa ang benta namon sa amon needs adlaw-adlaw".* Then she also shared how her earnings got increased, she expressed that "...*Di kaayo kusog ang sales*.*"*. This turn of events is affirmed by Hardie (2023), he said that with inflation making basic needs more expensive, the choice to vend occasionally becomes even harder. Occasional vendors frequently juggle other commitments like

childcare or primary jobs, making extended hours or adjusting prices less feasible. This can further squeeze their earnings.

Most Difficult Experience of OAV During Inflation

The table 10 shows the themes of the occasional ambulant vendor's most difficult experience during inflation period which are increased prices of product and reduced number of customers.

Table 10. Most Difficult Experience of OAV during Inflation

Significant Statements	Formulated Meanings	Theme/s
ang gina bakal namon, naga taas man gyapon. Kay syempre ang dati ang bundle is mura-mura lang, subong mahal na gid. grabe pag bawas ka customers namon, may ara man japon pero lain gd tung dati	The cost of a bundle of shirts has increased compared to the previous period when they were more affordable Unexpected decrease of customers due to expensive cost of goods	Increased price of products Reduced number of customers

As inflation continue to affect the prices of the products clothes and apparel business is also affected. A study conducted by Gu, Ślusarczyk, Hajizada, Kovalyova, & Sakhbieva, (2021), when they claim inflation have affected many businesses, including the apparel industry. The cost of raw materials, production, and transportation has increased, leading to higher prices for goods. This has resulted in an unexpected decrease in customers for many businesses as consumers become more price conscious. This was visible in the answer of OAV as her most difficult experience during inflation period. She shared that the cost of the bundle shirts which she sells became expensive, she said "*ang gina bakal namon, naga taas man gyapon. Kay syempre ang dati ang bundle is mura-mura lang, subong mahal na gid"* and her disappointment became worse when she said that due to the expensiveness of her products she experiences the reduction of her customers, she shared *"grabe pag bawas ka customers namon , may ara man japon pero lain gd tung dati".*

Perceived Reason for the Increased Prices of Commodities of OAV

The table 11 shows the themes of the occasional ambulant vendor's perceived reason for the increase prices of commodities which are the shipment process, and fuel and transportation impact on pricing.

Table 11. Perceived Reason for the Increased Prices of Commodities of OAV

Significant Statements	Formulated Meanings	Theme/s
"Damo… kumbaga, ang mga supplier gahatag pa na sa customs. Kumbaga damo pa sang SOP, damo pa sang gina tagaan. Kaagi gani kami, ang bundle namon ging confiscate sang customs sa port…"	The high cost of goods can be largely attributed to the expenses incurred in the product shipping process.	Shipment process affects in the increase prices
"kung gataas gd ang gasoilina mag umpisa gd na tarag.as ka mga presyo"	If there is an increase in gasoline prices, it will lead to a corresponding rise in the prices of other products	Fuel and transportation impact on pricing

Shipment process, fuel cost and transportation expenses are identified by the OAV as perceived reasons why the prices of commodities continue to rise. She said shipment process from the Bureau of Custom until the products reach her, that largely contribute to the increase of prices, she said "*Damo… kumbaga, ang mga supplier gahatag pa na sa customs. Kumbaga damo pa sang SOP, damo pa sang gina tagaan. Kaagi gani kami, ang bundle namon ging confiscate sang customs sa port…*". Then, she did equate in her perceived reason the prices of fuel and gasoline as one of the major factors contributing to the increasing prices of commodities she explained *"If there is an increase in gasoline prices, it will lead to a corresponding rise in the prices of other products"*.

Perceived Effects of Increased Prices of Commodities to OAV

The table shows the themes of the occasional ambulant vendor's perceived effects of the increased prices of commodities which is changed buying behavior resulted in changed consumer behavior.

Table 12. Perceived Effects of Increased Prices of Commodities to OAV

Significant Statements	Formulated Meanings	Theme/s
"kung kis-a dati gabakal-bakal pa ta sang isa ka sako nga bugas diba? Tapos subong, kung kis-a kilo-kilo ka nalang kay tungod sa kataason"	The OAV used to be able to purchase an entire sack of rice in the past, but presently, they can only afford to buy a few kilograms of rice due to a change in their financial situation or economic circumstances	Reduced purchasing behavior and a changed consumer behavior
dati maka grocery kita within 1 month or 1 week, subong hindi na kay tungod sang kataason sang mga baraklon	The ability of the OAV to afford an adequate supply of groceries, emphasizing the decrease of quality the OAV purchased	

Table 12 shows OAV perceived effects of prices of commodities. OAV commented about how her capacity to buy basic commodities and as rice has been reduced to its ricing price. If in the past, she could afford to buy a sack now "*Kilo-kilo na lang*" according to her. She further noted that there are certain things she could no longer do today as her buying behavior changed., she stated "dati maka grocery kita within 1 month or 1 week, subong hindi na kay tungod sang kataason sang mga baraklon.". This is confirmed in the study of Addeh, Olusola, Chimezie, & Shuuya (2022), where they concluded that the reduced purchasing behavior and changed consumer behavior due to inflation and it can lead to decreased demand for goods and services, which can put pressures on prices. Moreover, it can also lead to decreased economic activity and reduced consumer spending, which can have negative consequences for businesses and the overall economy.

Occasional Ambulant Vendor on Combating Inflation

This section provides the identified themes of occasional ambulant vendors in combating inflation. This includes the strategies and ways of the ambulant vendors on how they combat inflation. Lastly, it includes the challenges and difficulties faced by the OAV in combating inflation.

Strategy of OAV to Combat Inflation

This section provides the identified themes on the strategy of OAV on how she combats inflation which is using online platform as an alternative.

Table 13. Strategy of OAV to Combat Inflation

Significant Statements	Formulated Meanings	Theme/s
Nag resort na lang ko sa online selling, kay para maka dagdag man sang akon ginansya	Resorted to online selling to increase profit.	Using online platform as an alternative

OAV described how she navigated the effects of inflation where she used online platform as an alternative to sustain her vending business. As her number of customers continued to decrease, she resorted to another method to promote her products, that is why she entered the realm of online business. She stated: *"Nag resort na lang ko sa online selling, kay para maka dagdag man sang akon ginansya…"* This was confirmed in the study Luong (2023), street vendors adopt a strategy, utilizing alternative methods to comply with regulations while preserving the tradition of street trading. Despite facing marginalization due to digitalization, these vendors employ effective tactics, seizing opportunities and creating employment despite their limited skills. Their adaptability and resourcefulness demonstrate their capacity to prosper in the midst of urbanization and modernization regardless of economic crisis.

Ways of OAV to Combat Inflation.

This section provides the identified themes on the strategy of OAV on how she combats inflation which is self-reliance and cost efficiency.

Table 14. Ways of OAV to Combat Inflation

Significant Statements	Formulated Meanings	Theme/s
nang instead makuha ka sang tao… Ikaw nalang gid. Instead nga makwa ka sang tao nga mag bantay diba…ang expenses mo ibayad mo sa tao	personal involvement due to the concern that employing staff might lead to higher operational costs.	Self-reliance and cost Efficiency

OAV dealt with the increase in commodity prices in a way of getting directly involved in her business. As she worried about the possible rise in costs, she involves herself into the daily tasks of the business herself. This choice showed a practical response to economic challenges, proving she is focused on making as much money as possible while keeping costs in check. She stated *"Nang instead makuha ka sang tao… Ikaw nalang gid. Instead nga makwa ka sang tao nga mag bantay diba…ang expenses mo ibayad mo sa tao…"* This was proven in the study of Nurjannah and Andiny (2020), they stated that street vendors use workforce of 1-5 people with a wage of Rp. 10,000-Rp. 50,000 or 178-356 Php per day. This compensation structure reflects the informal nature of street vending and the economic constraints faced by this sector. The modest wages are often associated with the informal economy's characteristics, where financial resources are limited, and workers are compensated based on the day- to-day earnings of the business.

Challenges and Difficulties of OAV to Combat Inflation

Table 15. Challenges and Difficulties of OAV to Combat Inflation

Significant Statements	Formulated Meanings	Theme/s
*"…*kailangan mo mag less expenses ka kay tungod sa income mo hindi sapat…" sa physical store mo kailangan mo pa assistant, sa online selling abi ikaw lang. Pero need mo man gyapon may assistant ka kay syempre mag packing, delivery mo pa. description mo abi kung ihambal mo pa kung ok or good, or kung hindi sila satisfied ibalik pa sa imo. Rekalmuhan ka pa	Vendor had to cut with inflation making basic needs more expensive, the choice to vend occasionally becomes even harder. Occasional vendors frequently juggle other commitments like childcare or primary jobs, making extended hours or adjusting prices less feasible. This can further squeeze theirWith inflation making basic needs more expensive, the choice to vend occasionally becomes even harder. The vendor challenges in online product sales related to the need for detailed descriptions, customer persuasion, and dealing with negative feedback and returns.	Financial struggles and cost Management Lack of human resources and assistance Handling customer complaints

Table 15 shows the themes of the OAV in the challenges and difficulties she encountered when she combats inflation. The identified themes are financial struggles and cost management, lack of human resources and handling customer complaints. With inflation making basic needs more expensive, the choice to vend occasionally becomes even harder. Occasional ambulant vendors frequently juggle other commitments like childcare or primary jobs, making extended hours or adjusting prices less feasible. This can further squeeze their earnings. With inflation making basic needs more expensive, the choice to vend occasionally becomes even harder. Occasional vendors frequently juggle other commitments like childcare or primary jobs, making extended hours or adjusting prices less feasible. This can further squeeze their earnings. With inflation making basic needs more expensive, the choice to vend occasionally becomes even harder. Occasional vendors frequently juggle other commitments like childcare or primary jobs, making extended hours or adjusting prices less feasible. This can further squeeze their earnings.

As the prices continue to rise, OAV do anything she can to combat and fight it in order for her to sustain her livelihood. However, in her ways and strategies in combating

inflation, she faced a lot of difficulties and challenges. She shared that in order for her to fit her profit and her day-to-day expenses she need to lessen her expenses, she said ""…*kailangan mo mag less expenses ka kay tungod sa income mo hindi sapat…""*. Also, another challenges she faced is her lack of resources or staff to to help her manage the online and physical selling, she expressed *"sa physical store mo kailangan mo pa assistant, sa online selling abi ikaw lang. Pero need mo man gyapon may assistant ka kay syempre mag packing pa…"*. She faced a lot of challenges and difficulties when she combats inflation, and this phenomenon was explained by Jaishankar and Sujatha (2016). According to them, street vendors, including ambulant vendors, face many challenges as they are a vulnerable population who are not protected by government, with inflation making basic needs more expensive, the choice to vend occasionally becomes even harder. Occasional vendors frequently juggle other commitments like childcare or primary jobs, making extended hours or adjusting prices less feasible. This can further squeeze their earnings. The study also found that street vendors suffer from competition with other vendors due to fluctuation in market prices, insecure and irregular employment, and lack of protection from civic agencies and the state government. These challenges can make it difficult for OAVs to cut down expenses and hire additional staff for packaging and delivery.

Government Interventions provided to Occasional Ambulant Vendor

This section provides the identified themes of occasional ambulant vendor in the government intervention provided by the state. This includes the assistance and any forms of help from the government.

Interventions of the Government to OAV

Table 16 shows the themes of the Government interventions provided to OAV.

Table 16 Interventions of the Government to OAV

Significant Statements	Formulated Meanings	Theme/s
"daw wala man, Tung pag pandemic oo, pero wala naman kami sato source"	The ambulant vendor did not receive any government financial assistance for her clothing business, except during the COVID-19 pandemic, which was unrelated to her business	No financial support

OAV faces the dual challenge of limited financial support and a conscious choice to abstain from pursuing government aid. When asked if she received financial aid from the government when the prices of commodities have begun to increase, OAV replied: *"wala man. Tung pag pandemic oo, pero wala naman kami sato source".* Opting to maintain regular payments for the occupational tax permit, she showcases a commitment to self-reliance despite the absence of external financial assistance. She added: *"kami pa…gabayad sa government… kay syempre ang permit…."*. She was also cautious in

asking for government aid as it is selectively granted based on specific criteria, she stated: *"…ginapili lang man abi kung sin-o lang to ang pwede tagaan. Depende sa imo… kung ano kadako sang business mo…"* Although there is no financial assistance in the government, the researchers observed during their interview that there is the presence of police car patrolling the area, thus ensuring peace and security. This claim was supported by the Modern Liberalism theory which advocate minimal intervention and focusing on liberalistic will. In this case, a security assistance was provided by the LGU Koronadal but an absence of financial assistance in combating inflation.

Schematic Diagram of Occasional Ambulant Vendor

The themes in the context of Occasional Ambulant Vendor (OAV) during inflation were summarized and illustrated in a schematic diagram. The primary factor triggering the effects of inflation on the OAV's business is the surge in commodity prices, stemming from increased fuel and transportation expenses. This rise in costs directly affects the prices of goods sold by the OAV, making them less affordable for consumers and has led to a decrease in the number of customers for the OAV. This reduction is attributed to the change in the purchasing power of the consumers. As prices escalate, consumers' ability to afford goods diminishes, resulting in reduced demand for the OAV's clothing products. To counteract the effects of decreased purchasing power and dwindling customers, the OAV opted to utilize online platforms as an alternative sales channel. However, this transition was not without challenges. While exploring online platforms, the OAV found herself in a predicament. In a bid to be cost-efficient, she had to be self-reliant, managing the business operations single-handedly despite the need for additional support. The absence of financial aid or adequate resources made it necessary for her to minimize costs by personally handling sales and operations. Operating both physical and online shops presented challenges for the OAV. Engaging customers in the online sphere required a significant amount of patience and effort. Balancing the demands of both physical and online selling was exhausting and demanding, leading to increased stress and operational challenges. Despite facing multiple challenges and seeking sustainability, the OAV did not receive any financial aid from the government. This lack of support was primarily due to the government's criteria for aid, which favored selectivity and omitted individuals like the OAV, who were self-reliant. The absence of financial aid or adequate resources made it necessary for her to minimize costs by personally handling sales and operations like the OAV.

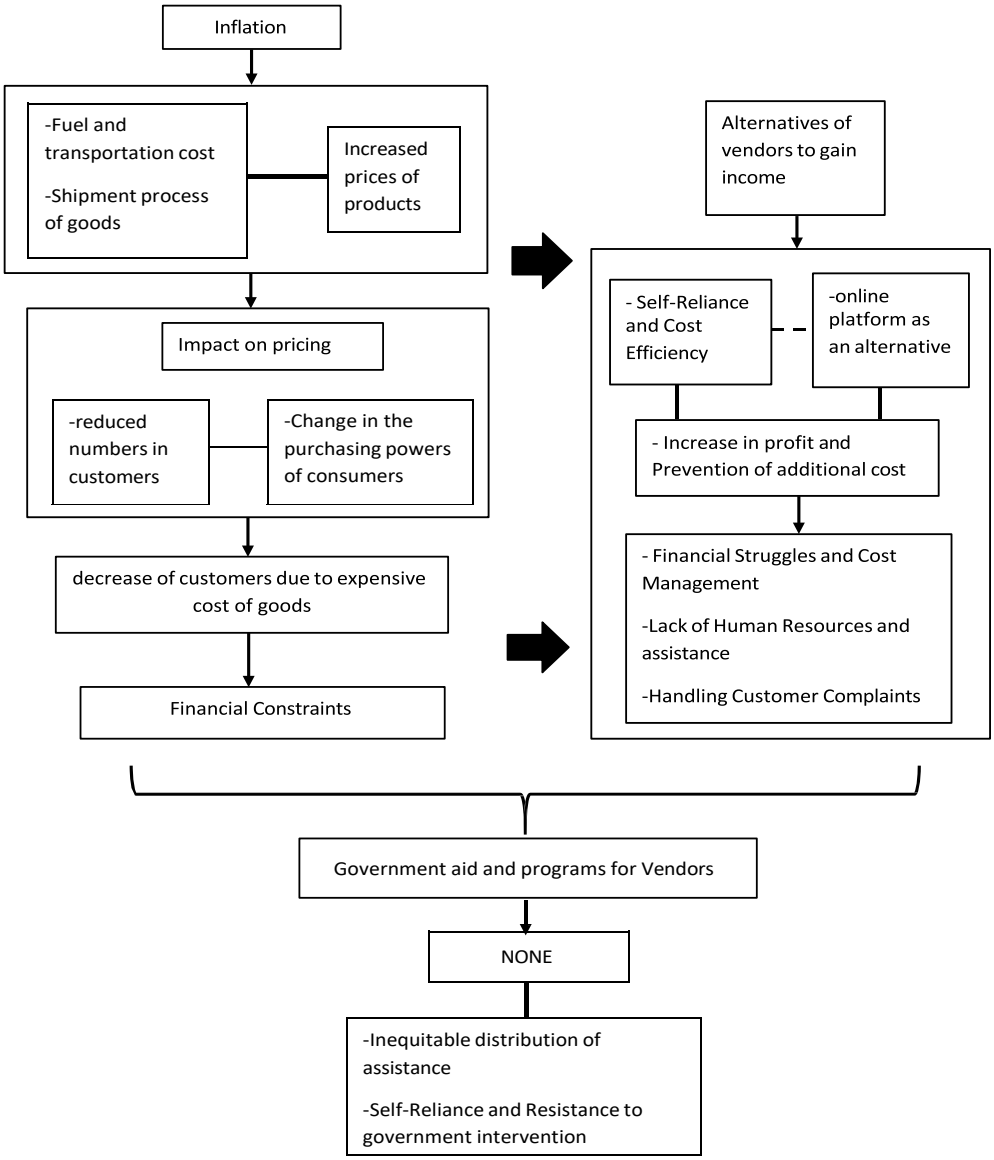


Figure 2 Schematic Diagram of the Themes of OAV

Cross-case analysis of RAV and OAV in their experience of inflation

This section shows the cross-case analysis of Regular Ambulant Vendor and Occasional Ambulant Vendor in their experience of inflation

Cross-case analysis of RAV and OAV themes in their experience during inflation

The table 17 shows the cross-case analysis of RAV and OAV. It shows the commonalties and differences of the RAV and OAV in vendor experiences during inflation.

Table 17 Cross-Case Analysis of the themes of RAV and OAV in Vending experiences during inflation

RAV	OAV	Commonalities	Differences
Price fluctuation due to - availability or unavailability of products And - gasoline price fluctuation	Financial Constraints	Both RAV and OAV experienced high cost and unstable prices of products and commodities brought by inflation	OAV nature of business does not constantly relied on the availability of products and they are experiencing financial constraints while the products of the business of RAV relies also on the availability and unavailability of the supply

Table 17 shows the commonalities and distinctions in the themes arising from the responses of RAV and OAV are notable. Both groups, Regular Ambulant Vendor (RAV) and Occasional Ambulant Vendors (OAV), share a common theme in dealing with the experiences brought about by the inflation which is driven increase in product costs. The escalating prices of goods and services, coupled with the volatility in pricing, are adversely affecting their means of earning a living. RAV sells variety of fruits. The high cost of these items is directly impacting their profit margins. OAV, who typically sell clothes during a major event such as charter anniversary, is also feeling the pinch of inflation. Prices in her commodities and products increased and experience fluctuation. Those experienced was explained by Thompson (2014) that according to him ambulant vendors often operate on small margins, making it difficult to absorb these cost increases without passing them on to consumers. Furthermore, it was confirmed in another study conducted by Atnafu & Balda (2018) that street vendors may have less flexibility in adjusting their prices, making it even more challenging to maintain profitability. In some cases, they may even be forced to reduce their inventory or stop selling certain items altogether because of continuing rise of prices.

On the other hand, the table 17 shows the differences of the themes between RAV and OAV. The pricing of products sold by Occasional Ambulant Vendor (OAV) is generally less influenced by supply and gasoline prices compared to the products sold by Regular Ambulant Vendor (RAV). OAV sells clothes that is not needed to be delivered due to unfixed location or operating on a predetermined schedule. This allows them to have more control over their pricing strategy, as they are not as heavily affected by fluctuations in supply and gasoline costs (Hayes, 2022). RAV, on the other hand, often source their products from various suppliers and may need to adjust their prices frequently based on availability and transportation costs. This makes them more susceptible to the effects of

supply chain disruptions and fuel price increases as explained by Chopra (2014) in his study.

In conclusion OAV has more flexibility in setting her prices and is less affected by external factors such as supply chain disruptions and fuel price fluctuations. RAVs, on the other hand, need to be more dynamic in their pricing strategy to account for changes in supply and transportation costs.

Cross-Case Analysis of themes of RAV and OAV in their most difficult experience during inflation

The table 18 shows the cross-case analysis of the themes of RAV and OAV in their most difficult experience during inflation. It shows the commonalties and differences of the RAV and OAV in vendor experiences during inflation.

Table 18 Cross-Case Analysis of the themes of RAV and OAV in their most difficult experience during inflation

RAV	OAV	Commonalities	Differences
Dealing with the dissatisfaction of Customers in terms of pricing Increasing the Price of the fruits	Changed the purchasing behavior of consumers and negatively affect the business by leading to a reduction in the number of customers	Both RAV and OAV most difficult experience during inflation are dissatisfaction and reducing number of customers	RAV experience of having to increase the price despite the dissatisfaction in the price while the OAV changed his attitude in terms of purchasing behavior

The Table 18 shows the commonalities and differences of RAV and OAV in their most difficult experience during inflation. They shared a common theme which are the dissatisfaction of customers of prices and reducing number of customers. These same experiences affirmed in the study of Kenton (2023) that inflation leads to increased costs for goods and services, putting pressure on RAVs and OAVs' profit margins. He added, to maintain profitability, they may have to raise prices, which can further alienate customers who are already struggling with inflation's impact on their purchasing behavior.

Furthermore, the table 18 also shows the differences of the themes of RAV and OAV in their most difficult experience. Regularly increasing the price of fruits due to inflation poses a significant challenge for RAV. This is because according to Mankiw and Reis (2016), customers are more price-sensitive during periods of inflation and raising prices can lead to customer dissatisfaction and a decline in sales. RAV face the dilemma of maintaining profit margins while keeping their products affordable for customers. On the other hand, OAV is more likely to adapt their purchasing habits in response to inflation. This could involve switching to cheaper suppliers, buying smaller quantities of clothes, or choosing a more suitable time for occasions that are less affected by price fluctuations, as explained by Dhar (2022).

Cross- Case Analysis of the themes in Perceived Reasons of RAV AND OAV for the Increased Prices and Commodities

The table 19 shows the cross-case analysis of RAV and OAV. It shows the commonalties and differences of the RAV and OAV in their perceived reasons for the increased prices and commodities.

Table 19 Cross- Case Analysis of the themes in Perceived Reasons of RAV and OAV for the Increased Prices and Commodities

RAV	OAV	Commonalities	Differences
Factors affecting the prices, such as: - **External:** gas price ,weather condition **Procedural:** shipping, production	Fuel and Transportation Impact on pricing	Both RAV and OAV shared that the cost of fuel and shipping process is perceived as a reason why prices of commodities increase	OAV does not equate weather condition as factor why prices increased

Table 19 illustrates the similarities and distinctions between RAV and OAV in terms of how they perceived why prices and commodities increased. RAV and OAV are particularly affected by these rising costs, as they often operate on tight margins and have limited resources to absorb the increased expenses. As a result, Nelson (2023) stated that they are forced to pass on the additional costs to consumers in the form of higher prices for their goods. RAV often source their fruits from suppliers located in different regions, and transportation costs are a major factor in determining the final price of their products. The rising cost of shipping can significantly increase the cost of procuring goods, forcing RAVs to raise prices accordingly while the OAV may also source some of their goods from suppliers outside their immediate area, and they are similarly affected by rising shipping costs. This was illustrated in the study of Hu (2022) that the increased transportation expenses can reduce their profit margins or force them to adjust their pricing strategies.

To conclude, the table also shows the differences in their perceived reasons why prices increased. Occasional Ambulant Vendors (OAV) may not perceive weather conditions as a direct factor in price increases because the OAV often operate with limited inventory and focus on short-term sales. This means they are less likely to be affected by disruptions in supply chains caused by weather events, unlike Regular Ambulant Vendors (RAV) who maintain larger inventories and operate on a more consistent basis.

Cross- Case Analysis of the themes in Effects of Increased Prices of Commodities to RAV and OAV

Table 20 shows the cross-case analysis of the commonalities and differences of RAV and OAV in their perceived effects of the increased prices of commodities

Table 20. Cross- Case analysis of the commonalities and differences of RAV and OAV in their perceived effects of the increased prices of commodities

RAV	OAV	Commonalities	Differences
Income/ Profit loss due to: 1. Few products being sold due to high price 2.Spoilage	Changed the Purchasing behvior in order to save money due to lesser profits	Both RAV and OAV commonalities to the effects of the price increased is that both experienced the effect of profit loss	RAV sells fewer products and some it leads to spoilage while OAV it changes her purchasing behavior as an effect of price increased

The Table 20 shows the identified themes of the perceived effects of the inflation to RAV and OAV. Both vendors shared that they experienced the effect of increased price commodities is that they significantly loss a profit. This is explained in the study of Aldeguer (2016), in which he argued that ambulant vendors, who are self-employed individuals trading in public areas, face challenges such as loss of income when prices go up. This loss of income affects both regular and occasional ambulant vendors, impacting their livelihoods and ability to support their families

On the other hand, the difference in their perceived effects is when the prices of goods and commonalities increased is that RAV which operating on a more consistent basis and catering to a wider customer base, are more likely to experience reduced sales volumes when prices increase. Consumers may become more price-sensitive and seek out cheaper alternatives, leading to a decline in RAVs' overall sales while the OAV who catered to a more specific customer base and operating on a more sporadic basis, may face a different effect of price increases. Instead of reducing sales volumes, they may observe a change in their customers' purchasing buying attitude.

Cross – Case Analysis of RAV and OAV on how they combat inflation

This section shows the cross-case analysis of the identified themes RAV and OAV on how they combat inflation, and it shows the commonalities and differences of the themes. It includes the strategy on how they combat inflation, the way on how they combat and the difficulties and challenges they encountered while they are combating it.

Cross-Case analysis of RAV and OAV on their strategies on how they combat inflation

The table 21 below shows the commonalities of themes of the RAV and OAV in combating inflation and their differences.

Table 21 illustrates below that RAV and OAV shared the same themes of in combating inflation. They adopt various strategies to mitigate the impacts of inflation on their businesses. Ibáñez, Rugamas, Kohli, & Kuehl (2022) explained the importance of their actions will result to flexible policies that allow them to adjust prices based on inflation

rates. This flexibility can help them maintain a balance between covering costs and remaining competitive. The adoption of convenient strategies by Regular Ambulant Vendors and Occasional Ambulant Vendors is a proactive response to the challenges posed by inflation.

On the other hand, the difference in the themes is that only the OAV uses only online while the RAV utilize several strategies. RAV operate on a more regular basis and cater to a wider customer base, necessitating a more comprehensive strategy to address inflationary pressures. Webadmin (2023) explained that vendors need to maintain a diverse strategy to manage inventory effectively and implement cost-saving measures to remain competitive and profitable. In contrast, OAV with their occasional vending schedules and smaller customer base, have more flexibility in adapting their strategies to deal with inflation. They can focus on utilizing online platforms to reach a broader audience and supplement their physical vending activities, reducing the impact of inflation on their overall sales.

Table 22 Cross-Case analysis of the themes RAV and OAV in their strategies on how they combat inflation.

RAV	OAV	Commonalities	Differences
Adaptation Strategy to mitigate the impacts of inflation	Using online platform as an alternative	Adapt a convenient strategy to lessen the impacts of inflation	RAV uses adaptation strategies while OAV only utilize online platform

Cross-Case Analysis of the themes of RAV and OAV on their ways to lessen the effect of inflation

This section provides the cross-case analysis of RAV and OAV on their ways to lessen the impacts of inflation.

Table 22 shows the comparison between RAV and OAV on their ways to combat and lessen the effect of the inflation. It shows here the commonalities and differences between the two. Both Regular Ambulant Vendors (RAV) and Occasional Ambulant Vendors (OAV) have adopted thriftier spending habits to manage the impact of rising costs and inflation. This shift in spending behavior is evident in their purchasing decisions, operational expenses, and overall approach to managing their businesses. Both RAVs and OAVs are demonstrating resilience and adaptability in the face of economic challenges. This was confirmed by the study of Olayemi (2023) in which according to him by adopting thriftier spending habits and exploring creative solutions, they can navigate the impacts of inflation

On the other hand, they vary in themes that the OAV is not only solely focus on saving money but also on being self-sufficient and managing cost efficient. While saving money is a crucial aspect of their operations, OAV also prioritize being able to operate independently and manage their expenses effectively. This approach confirmed by Williamson (2019) as it allows them to maintain control over their businesses, adapt to

changing market conditions, and ensure their long-term sustainability since their market strategy is not adept to everyday selling.

Table 22 Cross-Case Analysis of the themes of RAV and OAV on their ways to lessen the effect of inflation

RAV	OAV	Commonalities	Differences
Frugality	Self-eliance and cost efficiency.	Both became thrifty and lessen their spending attitude	The focus of OAV is not solely on saving money but also on being self-sufficient and managing costs efficiently

Cross-Case Analysis of the themes of RAV and OAV of the challenges and difficulties they face when they combat inflation

This section provides the cross-case analysis of RAV and OAV of the challenges and difficulties they face when they combat inflation.

Table 23. Cross-Case Analysis of the themes of RAV and OAV of the challenges and difficulties they face when they combat inflation

RAV	**OAV**	**Commonalities**	**Differences**
Reduced Purchasing behavior	Financial Struggles and Cost Management Additional Resources and Support Needs	Both RAV and OAV experiences financial difficulties as challenges and difficulties they face when they combat inflation	OAV need for more human resources and supports while RAV is a self supporting vendor that do not need another helper.

In the table 23, RAV and OAV shares the same themes in which is they experiences financial difficulties as challenges and difficulties they face when they combat inflation. According to Solis (2022), ambulant vendors experience financial difficulties as challenges and difficulties they face when they combat inflation. Rising food and fuel costs have forced them to ration their supplies or raise their prices on what some take for granted as convenient and affordable food, which puts their livelihood at stake. This was shown in the commonalities of the themes of RAV and OAV which they both experienced financial difficulties in combating inflation.

Furthermore, they have difference in their themes which comes to the challenges they face in combating inflation. In the case of OAV, she needs for more resources and supports while RAV is a self-supporting vendor. Considering that RAV operates as a daily fruit vendor near GPS Central School, he can manage his vending activities independently without requiring additional support or resources. On the other hand, OAV, being a clothing seller who participates in significant events, invariably requires assistance to run his business. This was explained in the study of Pu, Mehta, Naqvi, & Karim (2021) where they stated that OAV with their sporadic operations, limited resources, and smaller customer base, face challenges in sustaining their businesses and adapting to economic fluctuations. They often require additional support need for resources and support stems from their limited resources, sporadic operations, and smaller customer base. They require assistance in conducting her business in different areas. RAV on the other hand, are more self-supporting due to their established businesses, stable income streams, and adaptability.

Cross-Case Analysis of the themes of RAV and OAV of the intervention of the government

This shows the cross- case analysis of the themes of RAV and OAV of the intervention of the government.

Table 24 Cross-Case Analysis of the themes of RAV and OAV of the intervention of the government

RAV	OAV	Commonalities	Differences
NONE. The Vendor did not receive any kind of assistance from the government	No Financial Support for the Ambulant Vendor to address inflation	Both RAV and OAV did not receive any financial assistance from the government	No difference

The table 24 presented highlights the commonalities and distinctions in the themes concerning the government's intervention for both Regular Ambulant Vendors (RAV) and Occasional Ambulant Vendors (OAV). In examining the data, it is evident that neither of the vendors has received any form of financial assistance from the government.

Specifically, in the case of RAV, a clear assertion is made that no help has been received from government sources. This lack of assistance is not differentiated by type, encompassing various forms of support. Both vendors, either regular ambulant vendor or occasional ambulant vendor did not receive any financial assistance from the government.

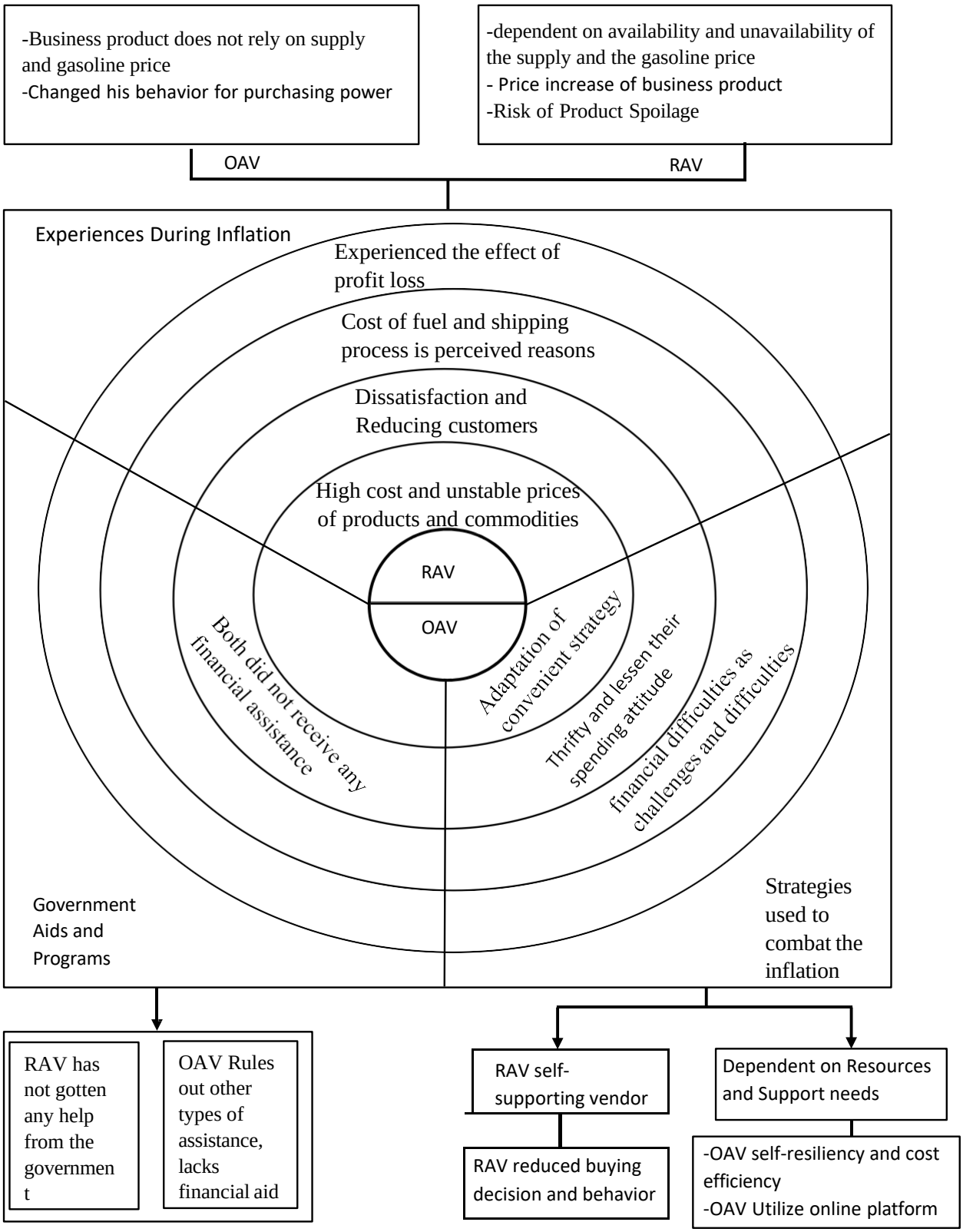


Figure 3. Schematic Diagram for OAV & RAV

This schematic diagram presents the variables that encapsulates the essence of the previous themes within this diagram. It would serve as a comprehensive synthesis the commonalities and differences of Regular Ambulant Vendor (RAV) and Occasional Ambulant Vendor. These graphical elements will suffice the relationship between various components through the use of this visual narrative that intricate the interconnectedness of the identified themes.

The extracted themes from the Regular Ambulant Vendor and Occasional Ambulant Vendor cases are systematically synthesized for a comprehensive analysis of their experiences, employed strategies, and the government's intervention. Utilizing symbols and diagrams, both sets of themes are visually represented in a cohesive, enclosed setting, forming a circle that facilitates the clear identification of commonalities related to inflation. Placed at the center of the diagram, the Ambulant vendors are focal points, signifying that they are the subjects of the identified themes. The external boxes surrounding the circle delineate distinctions between the two types of ambulant vendors, reflecting variations drawn from the themes extracted from their individual statements. This deliberate separation is driven by their unique preferences in navigating and strategizing responses to the impacts of inflation, as well as their distinct interactions with the government.

CASE 3: SAV (Salary-Based Ambulant Vendor)

The third participant is a 23-year-old salary-based vendor from Koronadal City, South Cotabato. For the past five years, he has been working in an “Aripahol” business, mashed sweetened cassava product. This particular food business has been around for nine years and has multiple branches in different locations within the city. He is paid on a daily basis with a specified time arrangement by owner. This means that they do not own the capital used to finance the goods and the necessary equipment. The vendor's stall is strategically located beside the City Health Office, right next to a bustling street crossing. He works for his cousin, whom he met under unfortunate circumstances – during an accident. This led him to aripahol vending, where he now helps his parents earn money for his school expenses. His workday begins at 7 in the morning and concludes at 7 in the evening. Rain or shine, he diligently works to sell food products to passersby. His dedication is further rewarded by the fact that the business owner provides him with all the necessary ingredients and equipment. Additionally, his unique work arrangement grants him incentives such as free boarding, food, water, and electricity, as his boss happens to be a relative.

Experience of Inflation by Salary-Based Ambulant Vendor (SAV)

This section provides the themes of occasional ambulant vendors in their experience during inflation period, their most difficult experience during inflation period, their perceived reason of the increased prices and commodities and their perceived effects of increased price and commodities.

Vending Experience of SAV During Inflation

Table 25 below shows the vending experience of SAV during inflation period with the themes, financial stability amidst increases price changes.

SAV talked about his experiences during inflation in which the themes that identified are relating to salary stability amidst increased price changes. Though SAV said that financial stability cannot be affected despite the price increase of gasoline and other products, saying that *"Ang income namon dati sa pagtaas sang gasolina kay daw same same lang man."*. These findings rejected the claims of Bénabou. (2012), when he stated that Salary-based ambulant vendors, who receive a fixed wage rather than relying solely on commissions or sales, face additional challenges in maintaining financial stability during periods of inflation. This is because their income is not directly linked to their sales, making it difficult to adjust their earnings in response to price changes.

Table 25 Vending Experience of SAV During Inflation

Significant Statements	Formulated Meanings	Themes
Ang income namon dati sa pagtaas sang gasolina kay daw same same lang man pero nag gamay medyo ang gabakal ka aripahol namon Bisan mag tass ang gasoline ang amon income kau di man maapektuhan same lang abi japon sweldo namon	Does not affect the income during the price increase of gasoline despite a small decrease of customers overall income will not be impacted.	Salary Stability Amidst Increased Price Changes

Most Difficult Experience of SAV during Inflation

This table shows the most difficult experience of SAV during inflation with the theme accident sill leading to financial loss.

SAV shared his most difficult experience during the inflation period that greatly contribute to income loss adding to the burden on inflation. Ambuko, Belik, Huang, & Timmermans (2014) concluded that accidents and spills in food preparation can lead to significant financial losses for various reasons, depending on the severity of the incident. In their research, they stated that spilled ingredients, spoiled food due to improper storage or handling, and unusable dishes all contribute to direct financial losses. The cost can be substantial, especially when dealing with expensive ingredients or large quantities of food.

Table Most Difficult Experience of SAV during Inflation

Significant Statements	Formulated Meanings	Themes
tung nabuhos akon binder, nabuhos ang lutuun ko ... ti wlaa ko kaluto dulaan gd kami satu benta nga dako.	Had an accident spilling resulting to the loss of sales	Accident spill leading to income loss

Perceived Reasons of SAV for the Increased prices and Commodities

Table 25 shows the perceived reasons of the SAV for the increased price and commodities which the identified themes are prices are going up primarily because of the high demand for the products.

Table 25 Perceived Reasons of SAV for the Increased prices of Commodities

Significant Statements	Formulated Meanings	Themes
Ang ideya ko lang nga nagtaraas ang mga produkto kai nahilon, kusog kag dali lang mabakal ang mga produkto. Dali lang mabakal sang tao.	Prices are rising because there is significant demand for the products	High demand for the products

SAV talked about his perceived reasons on why the prices of commodities increased during the inflation period in which the concept and themes that are prices are going up primarily because of the high demand for the products as its themes. SAV said that his idea about inflation is due to demand for the products, stating, *"Ang ideya ko lang nga nagtaraas ang mga produkto kai nahilon, kusog kag dali lang mabakal ang mga produkto. Dali lang mavakal sang tao.".*

It was explained by Gale (2015) that an increase in consumer demand, if not met with a proportional increase in supply, can create a shortage, leading to upward pressure on prices. The price of a good is determined by the interaction of supply and demand. In an open market, the price of a commodity naturally gravitates toward a point of balance, where the quantity supplied matches the quantity demanded. When the price is excessively high, a surplus of goods occurs, prompting producers to decrease the price to facilitate sales. Conversely, if the price is too low, a shortage arises, leading producers to increase prices to enhance profitability.

To support that claim Chen, & Simchi-Levi (2012) argued that SAV's inclination towards attributing the rise in prices of goods and commodities to the Law of Supply and Demand underscores the significance of aligning consumer preferences with product

demand. Showing that the supply-demand imbalance in the dual-channel supply chain can have a significant impact on the optimal pricing and inventory strategies. When there is a supply shortage, the manufacturer and the retailer will both set higher prices and produce lower inventory levels. This is because they want to conserve their inventory and maximize their profits. Particularly relevant into the statement above about the relativity of consumer preferences and producers' abilities to meet those preferences, ultimately shaping the pricing dynamics in the market.

Perceived Effects of Increased prices of commodities to SAV

Table 26 shows the effects of the increased price and commodities to the SAV with the theme decline in the enthusiasm due reduced number of customers.

Table 26. Perceived Effects of Increased prices and commodities to SAV

Significant Statements	Formulated Meanings	Themes
Naga bawas bawas si ate kung pila lang ka kilo ang gamiton kai basi di daw maubos ang binder. Galimit sya … kay basi malugi daw sya	Restricting the quantity of items	Decreased number of products to sell

SAV talked about his experiences on how it affects him on increased prices and commodities during the inflation period in which the theme is reducing the products to sell.. SAV said that *"Naga bawas bawas si ate kung pila lang ka kilo ang gamiton kai basi di daw maubos ang binder. Galimit sya … kay basi malugi daw sya"*, showing that one of the effects is

SAV's claims may be explained by Mcleod (2023) as he pointed out that preferences toward the business are crucial due to the direct correlation between customer numbers, revenue generation, and the overall satisfaction of the business owner and employees. It becomes uncertain when a business has fewer customers, affecting both employee motivation and the business's future outlook. This not only influences individual productivity but also links to the physiological and safety needs of customers and vendors. A reduced customer base can lead to income decline for vendors, affecting their ability to meet basic physiological needs and causing financial stress. This financial uncertainty extends to potential customers concerned about their own stability.

Salary-Based Ambulant Vendor on combating inflation

This section provides the themes on how the SAV combats inflation. It includes its strategies, ways and the challenges he faces while combating inflation.

Strategy of SAV to Combat Inflation

This section shows on the themes of SAV strategy in combating inflation which is adapting to geographical mobility to gain income.

Table Strategy of SAV to Combat Inflation

Significant Statements	Formulated Meanings	Themes
Nag initiative ko nga lako lako o gilibud, para man maka bawi man sa amon nga sales. Ginlibod namon sya bisan asa kay syempre dako tung nadula sa paghula ko ka binder para daw ma ka bawi bawi man kami satu kay mahal mahal mga presyo satu	Initiated selling or promotional efforts to different places to recover lost sales	Proactively engaged in selling or promoting in different places

SAV talked about his strategies on how he combats inflation by proactively engaged in selling or promoting in different places. SAV acknowledged that involving in roaming around the town and sells the product can gain income; he stated *"Nag initiative ko nga lako lako o gilibud, para man maka bawi man sa amon nga sales"*, and supporting his thought by adding, *"Ginlibod namon sya bisan asa"*.

This was confirmed in the study of Halton (2023), it was identified that the case of SAV in order for the income to increase, it needs to adapt with the current state of their customer thus, engaging in relocating their stalls. Geographical mobility shares a lot of advantages in acquiring specific goals. By expanding into new markets, vendors can reach a wider customer base and increase their sales, and often associated with higher productivity and economic output. Implying that it makes it easier for vendors to adapt to geographical mobility, as they can continue to work with their clients even if they move to a new location. As the business owner do not have to pay commissions or fees to their clients reducing the cost of the expenses. This reduction in costs can make it easier for vendors to adapt to geographical mobility, as they can afford to move to new locations without sacrificing their income.

Ways of SAV to Combat Inflation

Table 27 shows the themes of SAV on his ways to combat inflation by creation of products for lower risk of income loss.

SAV talked about his ways that he utilizes on how he combat inflation with the themes that identified is limited creation of products for possible lower risk of income loss. SAV emphasized that the way given by his owner to prevent higher risk of income loss is limiting the production of his products, stating that "Gina control ka amo ko ang ginahatag

nya nga binder…. damo abi ang balinhuy tapos gamay lang ang sang tao o customer ti damo ang mabilin.”.

This claim was supported by Lele (2019), stating that the statement of SAV situates in the model of the framework of salary-based vendor management, as highlighted. The relationship between clients and vendors is crucial for overseeing products and reducing the risk of losing income and expanding the cost of expenses. Ambulant Vendors benefit by having flexibility in choosing and customizing their offerings to meet customer needs. This flexibility helps vendors control their products, avoiding potential income loss. Overall, it is a great solution for businesses, aligning with the goals of both clients and vendors. It serves as a strategy to help both parties control their products and reduce the risk of losing income.

Table 27. Ways of SAV to Combat Inflation

Significant Statements	Formulated Meanings	Themes
Gina control ka amo ko ang ginahatag nya nga binder…. damo abi ang balinhuy tapos gamay lang ang sang tao o customer ti damo ang mabilin.	Controlling the products that are given by the owner to the vendor to prevent higher risk of income loss	Limited creation of products for possible lower risk of income loss

Challenges and difficulties of SAV to Combat Inflation

This section shows the themes of SAV on the challenges and difficulties he faced while combating Inflation which the identified themes compromising safety.

Table 28. Challenges and Difficulties of SAV to Combat Inflation

Significant Statements	Formulated Meanings	Themes
Mga ido nga maglagas sa imo	Being chased by stray animals, such as dogs, when peddling the products	Compromising safety
Mga tao nga di ma approaches sa imo mga	People paying no attention to you	
Wala balak mag bakal sang produkto	No intention in buying the products	Customers lack engagement
Door to door nga pamaligya tas hambalon nga wala tao pero my ara man	Rejection customers in the context of direct selling at their doorstep.	

SAV’s strategies to combat inflation is to sells his products in the different parts of City of Koronadal. One difficulty he faced is his safety during his peddling activities

because of strays dogs in the street of Koronadal, he stated that *“mga ido nga maglagas sa imo”*, he also shared that the challenging thing he encountered aside from the dogs is the lack of engagement of possible customers, he said with disappointment, *“ MayMga tao nga di ma approach sa imo”,* and *“Wala balak mag bakal sang produkto”,* as well as saying, *“Door to door nga pamaligya tas hambalon nga wala tao pero my ara man”*. This was confirmed in the article titled “Mobilizing the Streets: The Role of Food Vendors in Urban Life" by Allison & Rohel .(2021). It talks about how street vendors, who sell food on the streets, face many challenges, as being posit by the SAV in his experience into peddling activities. One big problem is the risk of getting hurt by stray animals. It highlighted those challenges faced by vendors are important in cities because they provide affordable and easy-to-get food for people. But even though they help a lot, street vendors have a lot of problems. They might be bothered by the police, get fines for using public space, and even face danger from stray animals.

Government Interventions provided to Salary-based Ambulant Vendor

This section provides the identified themes of salary-based ambulant vendor in the government intervention provided by the state. This includes the assistance and any forms of help from the government.

Government Interventions provided to Salary-based Ambulant Vendor

This section shows the themes of the intervention of the government which identified that there is no financial aid for the ambulant vendor from the government.

Table 29 Intervention of the Government to SAV

Significant Statements	Formulated Meanings	Themes
Wala gd… Pero sa amon nga amo may ara.	I did not receive financial help from the government Only the owner receives the interventions of the government but to the ambulant vendors received none	No Financial Aid

SAV talked about not having financial aid as the the intervention of the government. SAV negatively said that, *“Wala gd.”*, and vividly followed his statement by saying, *“Pero sa amon nga amo may ara.”*. Despite the fact that SAV emphasized that there is no financial intervention from the government, during the interview, the researchers notably observed that there is a traffic enforcer, regulating the traffic beside his stall. It means that there is a security assistance provided to him in the form of traffic enforcer to conduct his business peacefully. This was supported by the Modern Liberalism as it promotes own will to combat the existing phenomena but providing a minimal intervention. In this case, SAV do not receive financial assistance from the government but received a security assistance from the LGU of City of Koronadal.

Schematic Diagram of the Themes of SAV

The themes were summarized in the context of the Salary-based ambulant vendor during the inflation and put it into content of schematic diagram. The primary contributors of inflation are put into one setting emphasizing that high demands for products and increased price for gasoline was the cause of inflation. It was also synthesized that the salary-based vendor enthusiasm declines because of the reduced numbers of the customers and showing that financial stabilization can be achieved because of the customers preferences for the product that could led to loyalty for the business. However, these themes were recognized by the vendor that it could not affect him due to the nature of his work, having a fixed salary. Two bolded arrows are used because it signifies that despite of the nature of vendor's work, it still provided various alternatives to gain income for the business. The vendor engages in peddling activities as well as moving to different places to acquire income. But challenges are contextualized within the strategies of the vendors to identify the leading factors why certain challenges occurred. Curly brace is used to separate the government aids and programs since it acts as an independent variable and denoting to the interaction of vendor towards it. Yet, it was clear that due to inequitable distribution of aids and programs provided, and lack of initiative prevented the vendor to abstain such aids and program.

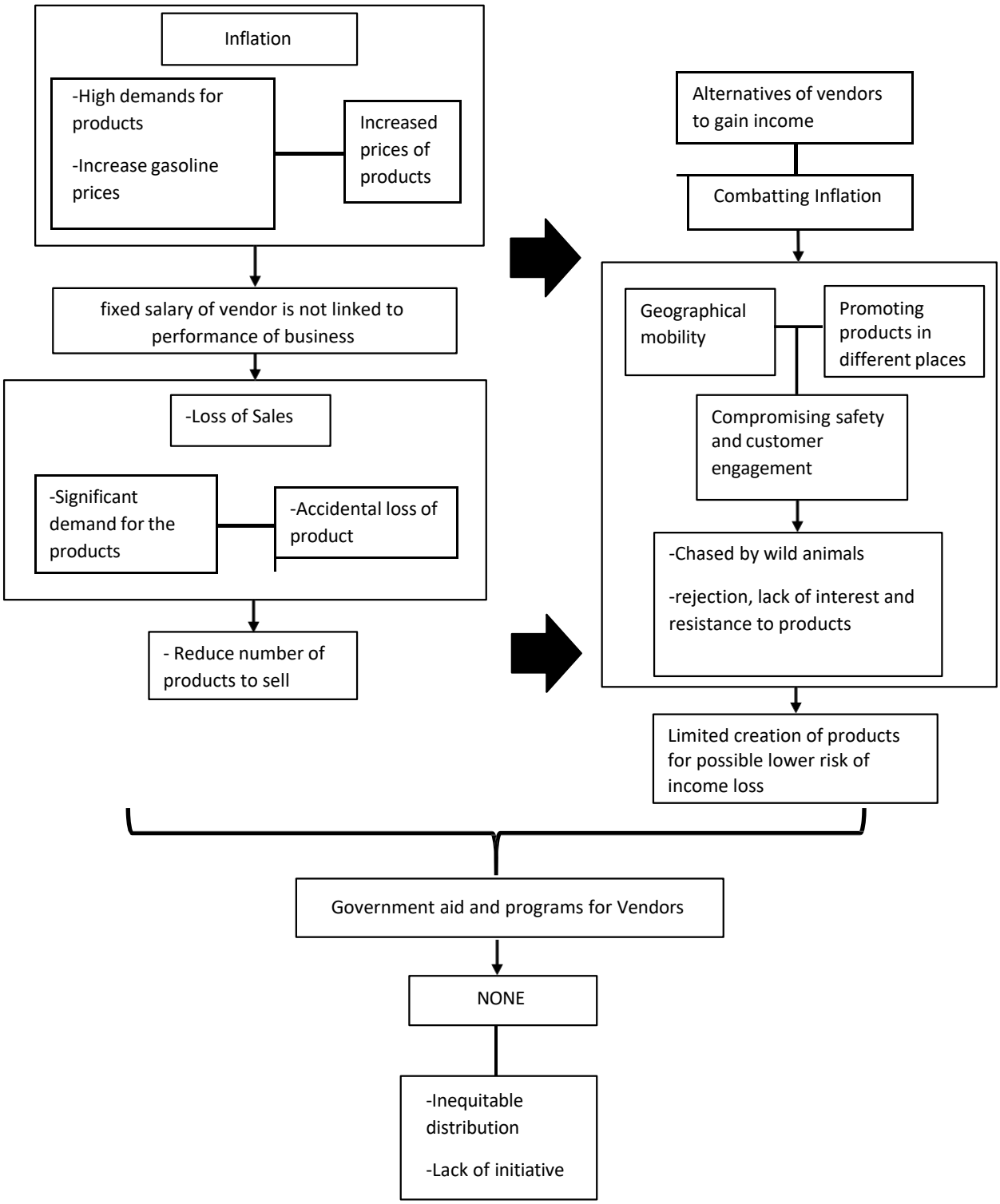


Figure 4 Schematic Diagram of the Themes of SAV

Cross – Case Analysis of in their experience during inflation: RAV, OAV and SAV

This section shows the cross – case analysis of RAV and OAV and SAV on how they experience during inflation, on their most difficult experiences, their perceived reasons on the increase price on commodities and the perceive effects of the inflation

Table 30 shows the cross-case analysis of the RAV and OAV vs SAV of their experiences during inflation.

Table 30. Cross – Case Analysis of RAV, OAV and SAV of their vending experiences during inflation

RAV and OAV	SAV	Commonalities	Differences
OAV nature of business does not constantly relied on the availability of products, and they are experiencing financial constraints while the products of the business of RAV relies also on the availability and unavailability of the supply	Salary stability amidst increased price changes	The commonalities between the RAV, OAV and SAV is that they experienced negative effects on their vending business when price fluctuations or price changes occur	Salary Based Vendor has salary stability despite increased price changes while the RAV and OAV experienced financial difficulties due to inflation brought by several factors

RAV, OAV and SAV shared the commonalities and differences in their themes pertaining to their experiences during inflation. They shared the commonalities of their experiences as they all experience negative consequences especially in business field. This was explained in the study of Lingen (2023) he said that business owners like ambulant vendors, involved in purchasing and selling goods, directly feel the effects of inflation through higher procurement costs. This includes increased expenses for transportation, fuel, and raw materials, resulting in elevated product prices. These fluctuations impact profit margins, customer demand, and overall business competitiveness. On a smaller scale, OAVs also contend with price fluctuations, facing heightened costs for supplies, transportation, and storage, leading to increased product prices. Their flexibility in adjusting prices may be limited by competition and market forces, making it challenging to fully pass on the cost increase to consumers. As consumers, SAVs experience the consequences of price fluctuations, grappling with rising costs for essential goods and services such as food, transportation, housing, and utilities.

Table 30 shows that while RAV and OAV have experienced financial difficulties during inflation due to several factors, SAV was hardly hit by inflation because his salary was stable. SAV typically benefit from a relatively higher level of financial stability when compared to business owners like RAVs and OAVs. The primary contributor to this stability is the consistent and steady nature of SAVs' income. Unlike RAVs and OAVs, whose earnings are directly tied to the profitability of their businesses, SAVs often receive a fixed or more predictable income.

Cross – Case Analysis of RAV, OAV and SAV on their most difficult experience during inflation.

Table 31 shows the cross – case analysis of RAV and OAV vs SAV in their most difficult experience during inflation. It shows the commonalities and differences of their most difficult experience.

It shows the similarities of themes of RAV, OAV and SAV in their most difficult experience during inflation is experiencing being exacerbated by the economic challenges brought about by inflation. This was further elaborated by Krugman & Wells (2018), that the economic challenges brought about by inflation, therefore, act as a compounding factor for vendors of various types. It influences their decision-making, pricing strategies, and overall business competitiveness, adding another layer of complexity to the already demanding nature of their entrepreneurial endeavors.

Moreover, table 31 also shows the differences in terms of their most difficult experiences which is RAV and OAV facing business and economic challenges in inflation. RAV struggles with setting prices and keeping customers satisfied, while OAV's problem is adjusting to changes in purchasing power on the other hand, SAV dealing with the financial consequences of an unexpected loss, indicating a specific and possibly unforeseen financial challenge. RAV and OAV is directly engaged in their business that is why their most difficult experience can be associated into their cost-profit margin. According to Heracleous (2014), for both regular and occasional ambulant vendors, the day-to-day difficulties revolve around the financial challenges and difficulties of procurement costs, pricing strategies, and the constant fluctuations in market dynamics. The relentless balancing act between expenses, such as the costs of goods and transportation, and the pursuit of revenue becomes a central theme in their experiences.

While the experiences of salary-based vendors diverge from the cost-profit dynamics. In the same article of Heracleous (2014) he argued that their most challenging moments extend beyond the realms of the traditional business model. The difficulties faced by salary-based vendors may encompass aspects such as job security, workplace dynamics, and market challenges that transcend the direct correlation to monetary gains and losses. To conclude, the SAV most difficult experience can be associated into something else aside from cost-profit.

Table 31. Cross – Case Analysis of RAV, OAV and SAV on their most difficult experience during inflation.

RAV and OAV	SAV	Commonalities	Differences
Both RAV and OAV most difficult experience during inflation are Dissatisfaction and Reducing customers. RAV difficult experience is to increase the price of the fruits he sells while the OAV it changed his attitude in terms of purchasing behavior.	SAV's most difficult experience is when he has an accident spill that resulted in income loss.	The challenging experiences faced by different types of vendors exacerbated by the negative financial challenges	RAV and OAV facing business and economic challenges in inflation. RAV struggles with setting prices and keeping customers satisfied, while OAV's problem is adjusting to changes in purchasing power. On the other hand, SAV dealing with the income loss due to accidental spill.

Cross – Case Analysis of RAV, OAV and SAV on their perceived reasons why price on commodities increased

Table 32 shows the cross-case analysis of the RAV and OAV vs SAV on how they perceived reasons why prices on commodities increased. It shows the commonalities and differences on their perceived reasons.

Table 32 cross-case analysis of RAV and OAV vs SAV on how they perceived the reasons why the cost of price and commodities get high

RAV and OAV	SAV	Commonalities	Differences
Both RAV and OAV shared that the cost of fuel and shipping process is perceived as a reason why prices of	SAV perceived that the reasons why prices are going up primarily because of the high demand for the products	Both RAV and OAV, as well as SAV, recognize that external factors is the reasons why the prices increased	RAV and OAV share the perception that the cost of fuel and the shipping process contribute to the rise in commodity prices.

commodities increase OAV does not equate weather condition as factor why prices increased			While SAV perceives that the primary reason for the increase in prices is the high demand for the products.

It is shown that RAV, OAV and SAV shared common themes on the perceived external factors for the price increase being experienced perceive reasons why the prices increased. Acknowledging the influence of external factors, Boampong (2022), explained that RAVs, OAVs, and SAVs seek ways to adapt and manage their finances within their spheres of control. They explore strategies to reduce costs, diversify income streams, and prioritize essential expenses. In the differences of their themes, RAV and OAV share the perception that the cost of fuel and the shipping process contributes to the rise in commodity prices. While SAV perceives that the primary reason for the increase in prices is the high demand for the products. RAVs and OAVs have a more nuanced understanding of the factors contributing to rising commodity prices due to their direct involvement in the supply chain. SAVs' perception may be more focused on the demand side because he does not own the business entirely.

Cross – Case Analysis of RAV, OAV and SAV on the effects of the inflation

Table 33 shows the cross-case analysis of the RAV and OAV vs SAV on the effects of the inflation. It shows the commonalities and differences in the effects of the inflation.

Table 33 Cross – Case Analysis of RAV, OAV and SAV on the perceived effects of the inflation

RAV and OAV	SAV	Commonalities	Differences
Both RAV and OAV commonalities to the effects of the price increased is that both experienced the effect of profit loss RAV sells fewer products and some it leads to spoilage while OAV it changes his purchasing power attitude as an effect of price increased	Reduced number of products	RAV, OAV and SAV shared the same themes which is Negative consequences stemming from the increased prices.	RAV and OAV experience the effects of profit loss and unstable income while SAV limiting the products to be sold in the market.

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RAV, OAV and SAV answered a common theme for their answers on what is the effect of the inflation. They shared theme of negative consequences stemming from increased prices affect these vendors in various ways. It can impact their profit margins, overall income, and ability to adapt to changing market conditions. The specific challenges each type of vendor faces may vary, but the common thread is the potential negative impact of rising prices on their livelihoods and businesses.

This was explained by Friedline, Chen, & Morrow (2020), who argued that the RAVs and OAVs face profit loss and unstable income due to their direct exposure to rising costs and limited flexibility in pricing. SAVs, on the other hand, limits his products to be sold in market. He sells fewer to avoid potential income loss and the fact that any unsold products cannot be sell again and it will go to waste.

Cross – Case Analysis of RAV and OAV vs SAV on how they combat inflation

This section contains the cross-case analysis of RAV-OAV and SAV on how they combat inflation, the strategy, ways and difficulty in combating it.

Cross-Case Analysis of the themes of RAV – OAV and SAV on Strategy they use to combat the inflation

Table 34 shows cross-case analysis of the themes of RAV and OAV vs SAV on the strategy they used to combat inflation.

The table shows how RAV, OAV and SAV shared the commonalities on how they combat inflation. They shared that they all acknowledge the need for flexibility and innovation to navigate challenges brought by inflation. This claim was supported by Thompson (2023) Regular Ambulant Vendors (RAV), Occasional Ambulant Vendors (OAV), and Salary-Based Ambulant Vendors (SAV) all recognize the need for flexibility and innovation to adapt to the challenges posed by inflation. While they face different economic circumstances and financial pressures, they all share a common understanding that adaptability and creativity are crucial for navigating economic uncertainties. They also shared the differences of their themes. RAVs, OAVs, and SAVs employ different strategies to combat inflation, tailored to their unique circumstances and economic realities. RAVs focus on product diversification, inventory management, cost-saving measures, and customer engagement. OAVs leverage online platforms, explore alternative income streams, and build strong customer relationships. SAVs consider geographical mobility in vending, negotiate wage adjustments, review spending habits, and invest in upskilling or reskilling. By adapting their approaches and embracing innovation, all three groups can navigate economic challenges and maintain financial stability (Kramer, 2023).

Table 34 Cross – Case Analysis of RAV and OAV vs SAV on Strategies they use to combat the inflation

RAV and OAV	SAV	Commonalities	Differences
Adapt a convenient strategy to lessen the impacts of inflation RAV uses various strategies while OAV only utilize online platform	Proactively engaged in selling or promoting in different places	RAV, OAV and SAV similarities is that they all acknowledge the need for flexibility and innovation to navigate challenges brought by inflation.	RAV uses several strategies to combat inflation and OAV uses only the online platform to combat inflation while the SAV is adapting geographical mobility in vending to combat inflation

Cross – Case Analysis of RAV and OAV vs SAV on the ways they used to combat inflation

Table 35 shows cross-case analysis of the themes of RAV - OAV and SAV on the ways they used to combat inflation. It shows the commonalities and differences on their ways.

Table 35 Cross – Case Analysis of RAV and OAV vs SAV on the ways they used to combat inflation.

RAV and OAV	SAV	Commonalities	Differences
Both became thrifty and frugal to lessen their spending attitude The focus of OAV is not solely on saving money but also on being self-sufficient and managing costs efficiently	Limited creation of products for lower risk of income loss	RAV, OAV and SAV exerts efforts to manage Ccsts and income	RAV and OAV take proactive steps to handle inflation by being thriftier and pursuing self-sufficient strategies while SAV focuses on minimizing risks and safeguarding income by cutting costs and seeking wage adjustments

The table 35 shows the commonalities of RA, OAV and SAV in their themes that tackles their ways to combat inflation. Among their ways they shared one common answer while they exert efforts to manage costs and income. They make efforts to manage costs and income in ways that align with their unique challenges and circumstances. This was backed by the study of Hashemi-Pour & Fogarty (2023). These efforts involve a

combination of strategic sourcing, marketing, sales optimization, and financial planning to enhance overall financial resilience and sustainability

The table also shows the differences in the ways on how they combat inflation. According to them, RAV and OAV take proactive steps to handle inflation by being thriftier and pursuing self-sufficient strategies while SAV focuses on minimizing risks and safeguarding income by cutting costs and seeking wage adjustments. RAV and OAV adopt thrifty practices, pursue self-sufficient strategies, and focus on customer-centric approaches to proactively manage inflation. SAV, on the other hand, prioritize cost-cutting measures, engage in wage negotiations, and invest in upskilling or reskilling to minimize risks and safeguard their income in the face of economic pressures.

Cross – Case Analysis of RAV and OAV vs SAV on the challenges and difficulties in combating inflation

Table 36 shows cross-case analysis of the themes of RAV - OAV and SAV on the challenges and difficulties in combating inflation. It shows the commonalities and differences in their difficulties and challenges they faced.

Ambulant vendor shared the commonalities in their challenges which is the adapting to changing consumer behavior. Regular Ambulant Vendor (RAV), Occasional Ambulant Vendor (OAV), and Salary-Based Ambulant Vendor (SAV) face the challenge of adapting to changing consumer behavior in combating inflation.). This difficulty is in agreement with the study of Garg (2022) who states that understanding the dynamics of consumer behavior, adapting their strategies accordingly, and embracing innovation, vendors can deal the challenges posed by inflation and maintain their financial stability and resilience.

The differences in their answers in the themes of the challenges and difficulties also shown in the table 41. RAV and OAV encountered financial challenges while grappling with inflation, whereas SAV confronted challenges related to safety and a lack of customer engagement in their vending business. Regular Ambulant Vendor (RAV) and Occasional Ambulant Vendor (OAV) primarily face financial challenges due to inflation, while Salary- Based Ambulant Vendor (SAV) encounter challenges related to safety and customer engagement in their vending businesses.

Table 36. Cross – Case Analysis of RAV and OAV vs SAV on the challenges and difficulties in combating inflation

RAV and OAV	SAV	Commonalities	Differences
Both RAV and OAV experiences financial difficulties as challenges and difficulties they face when they combat inflation OAV need for more resources and supports while RAV is a self-supporting vendor	Compromising Security Customers lack engagement	RAV, OAV and SAV shared the commonalties in their themes which is the challenge to the adapting to changing consumer behavior.	RAV and OAV encountered financial challenges while grappling with inflation, whereas SAV confronted challenges related to safety and a lack of customer engagement in their vending business.

Cross – Case analysis of RAV and OAV vs SAV in intervention of the government

The table shows only the commonalities of the themes which is all the three types of vendors regardless of what kind they are or what products they are selling they did not receive any financial aid or financial assistance of any kind from the government. This was explained in the article of Agnes (2021) titled, Moral Politics of Sidewalk Vending: The Struggle between the City Authorities and Sidewalk Vendors of the City of Manila, he argued that authorities perceived the vendors as undisciplined and undesirable illegals that is why it is only once in a while a financial assistance from the government provided to the ambulant vendors. In spite the fact that there is no financial assistance received by the vendors, as the researchers observed during their interview, all vendors receive security assistance from the government to conduct their vending business peacefully.

Table 37 Cross – Case Analysis of RAV and OAV vs SAV in intervention of the government

RAV and OAV	SAV	Commonalities	Differences
Both RAV and OAV did not receive any financial assistance from the government RAV has not gotten any help from the government, and OAV, while not ruling out other types of assistance, lacks financial aid to	No Financial Aid for the ambulant vendor from the government because of inequitable distribution of government assistance	No Intervention coming from the Government especially the financial assistance	No difference

tackle inflation challenge			

Schematic Diagram of the Themes of RAV & OAV vs SAV

The schematic diagram illustrates the commonalities and differences of RAV and OAV to SAV. Their commonalities are set in the circle, sectioned by their experiences, strategies, and government interventions while the differences of RAV and OAV to SAV are presented in the boxes outside the circle. The concepts on the upper section in the circle are the shared experiences of the three ambulant vendors where they all experienced price fluctuation, profit loss and other challenging experiences brought about by inflation. They also agreed there are external factors that contributed to the price increase, and this is why negative consequences have manifested. However, they also differed on some aspects such as financial difficulties of RAV and OAV where they struggled with setting prices, customer satisfaction and changes in purchasing behavior which contributed to their profit loss and unstable income. SAV, meanwhile, had thought that price increase was caused by high demand of products and despite experiencing profit loss, its impact was minimized due because of a stable income.

As for the strategies employed to mitigate the effects of inflation, the three vendors acknowledged the need for flexibility and innovation and have exerted efforts in managing costs and income in response to the changing consumer behavior. They differed, however, in their methods of adaptation where RAV and OAV utilized online platform, have been thriftier and pursued self-sufficient strategies in facing the financial challenges. On the other hand, SAV have adapted geographical mobility, cut costs, and wage adjustment despite the challenges of safety and lack of customer. For government aid and programs, the three ambulant vendors have similar experience of not receiving any financial assistance.

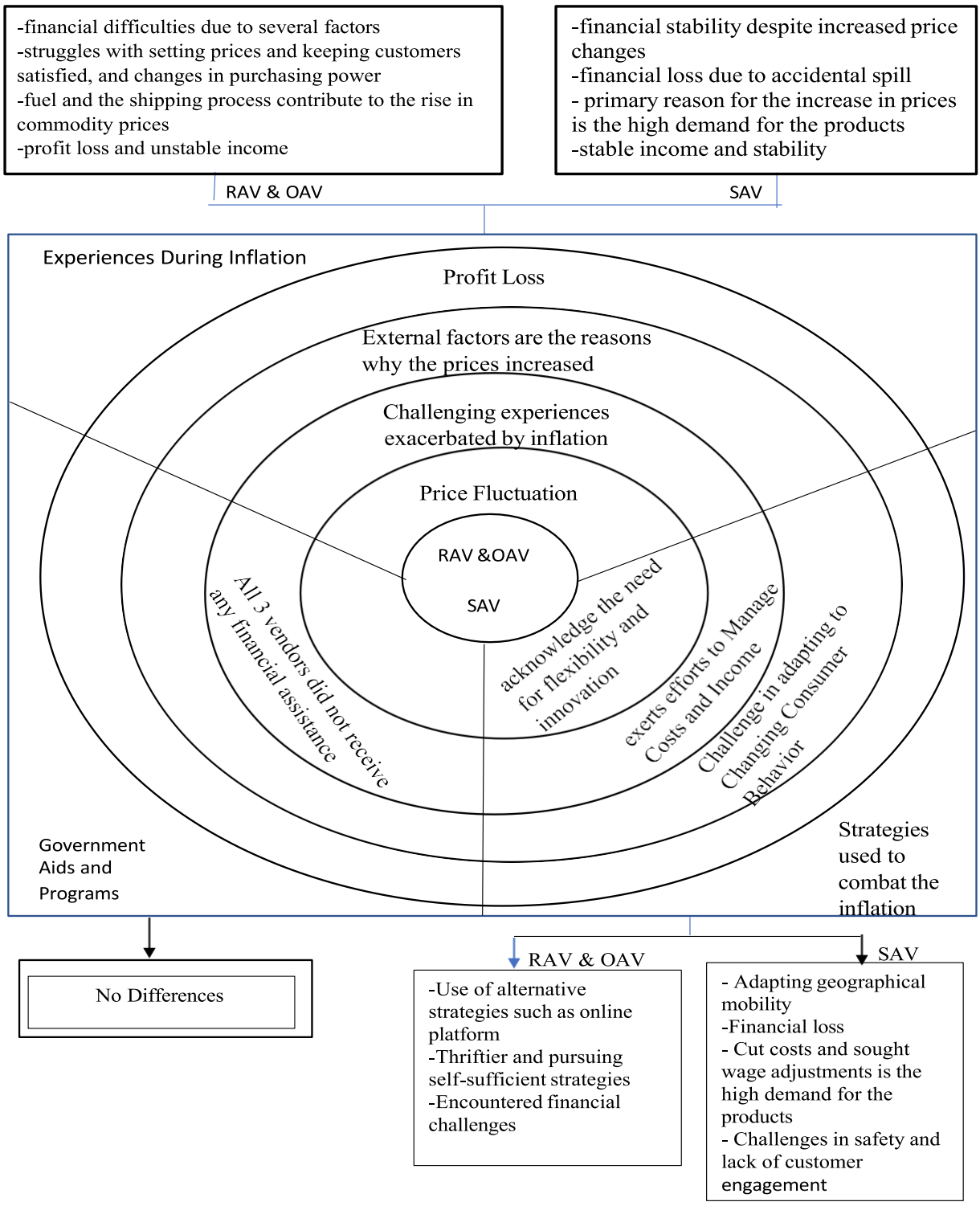
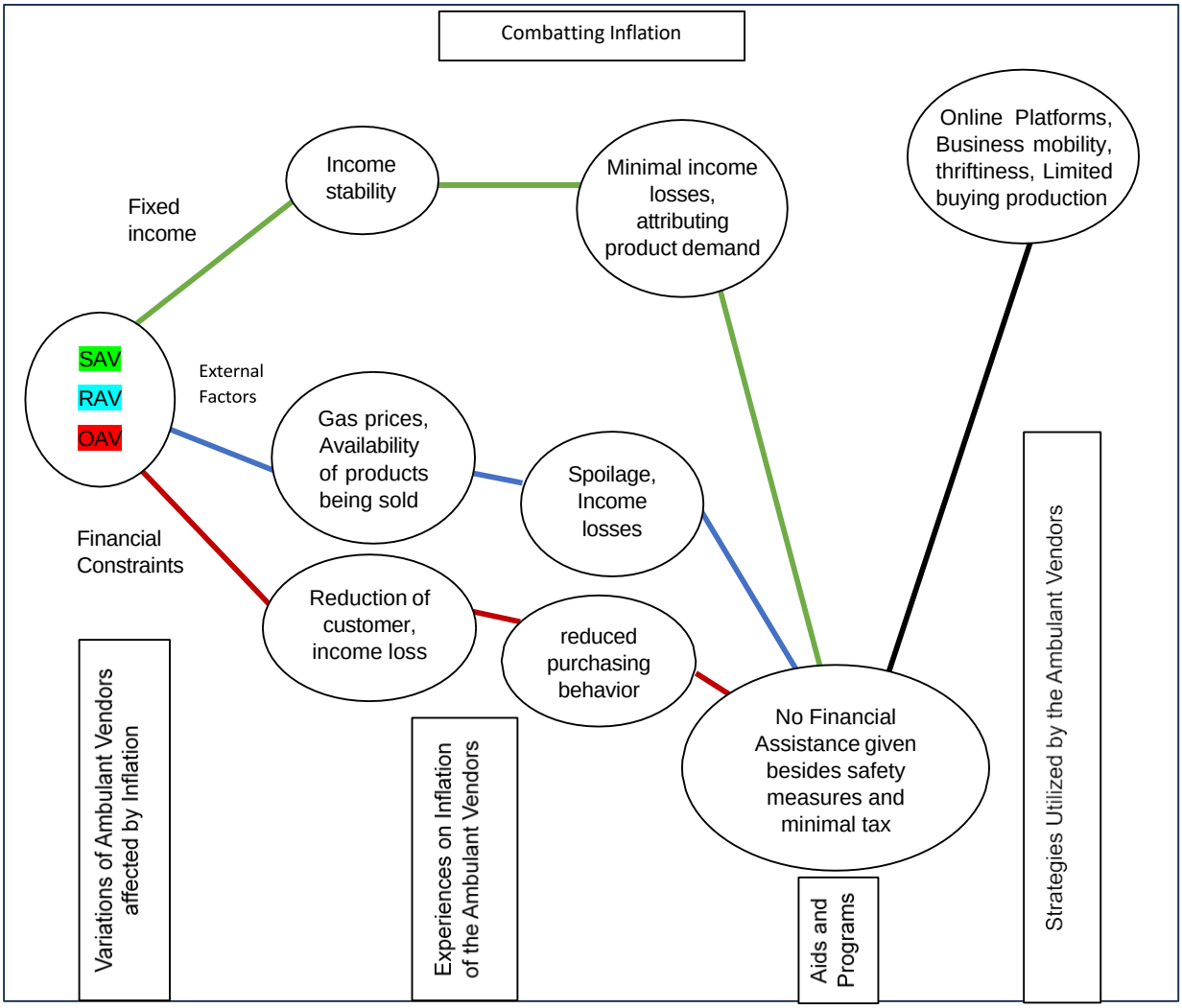


Figure 5. Schematic Diagram of the Themes of RAV & OAV vs SAV

Formulated Conceptual Framework



The variables present in this diagram are all related to the three identified classifications of Ambulant Vendors, as described in earlier sections of this paper. After the collection of data from the participants, these findings become the basis for constructing the grand-conceptual framework of the study. These variables reflect the interconnected aspects relevant to the research problems. One variable is dependent on the other, since all of the answer given by the participants are extracted to make the themes for the study, thus, also making it the determinant of what are the results of their actions. All experiences of the Ambulant vendors are reflected by the strategies done by them. The diagram shows the fluctuation of the variables just how inflation works as it is. Each variable has shown interrelatedness, indicating how ambulant vendors addressed inflation through various methods and strategies. The negative impact of inflation to the ambulant vendors are shown to be pulled down, since their experiences are all negative making it harder for them to cope up from the adverse effect of the inflation. Their situation became worsen because of minimal assistance from the government. It can be seen that

the government intervention is being drag down, not all the way from the bottom since this intervention may take the form of public safety measures, the implementation of occupational taxes for those unable to afford city business permits, and the freedom to engage in vending activities without discrimination. Additionally, their presence was acknowledged by contributing to the city's economy without hindrance from the micro- business owners.

Despite the vendors' limited awareness of these interventions, they employ strategic methods to cope with the effects of inflation, turning to various platforms as alternative means including, online platform, business mobility to acquire more customer and income, Thrifty behavior of the vendor, and lastly is by putting limited products needed to sell. This showcases the vendors' resilience and adaptability in the face of economic challenges, even when the full extent of government involvement may not be fully comprehended by them.

Conclusions

The study primarily aimed to describe the experiences the phenomenon combating inflation as experienced by the ambulant vendors in the City of Koronadal, specifically their experiences in inflation, on how they combat inflation and what are the interventions of the government provided to them.

On Their experiences on inflation. Based on the result, ambulant vendors experienced price fluctuations, economic challenges, and negative consequences stemming from increased prices that affect their livelihood. Price fluctuations have a significant impact on the livelihoods of ambulant vendors. This is due to the fact that ambulant vendors often operate on thin margins and are therefore very sensitive to changes in the price of goods. As a result, price fluctuations can lead to economic challenges for ambulant vendors, such as decreased profits and even losses. These experiences are common among the three types of ambulant vendors although, it seems like between those who receive salary from the business owner and those vendors who finance their own business, the latter are more likely to be greatly affected. It is also interesting to note that the kind of products being sold by the ambulant vendors could be a factor to their experience of inflation.

On how the ambulant vendors combat inflation. As the inflation surges, ambulant vendors must do something to combat it. Based on the result, ambulant vendors combat inflation by using several strategies especially utilizing online platforms, changing their buying behavior and wage adjustments. Ambulant vendors are being proactive in dealing with inflation, the need to earn profit in order to sustain and an income in order to progress their business. This shows how the ambulant vendors are becoming resilient in times of adversities. But humans as they are, in combating inflation they face several difficulties such as lack of engagement and safety risk. These challenges can hinder their efforts to lessen the negative effects of the inflation.

On the interventions provided by the government to the ambulant vendors. Interventions, assistance, and aid from the government is necessary. It is a way of showing that the government is for the poor and for marginalized. Based on the results, all three ambulant vendors did not receive any financial assistance or aid coming from the government. However, assistance does not only emanate from financial aid or giving money incentives. It may also be in a form of providing security, public welfare, and many others. Ambulant vendors are the sectors in the society considered to be informal settlers. They do not pay taxes, secure business permit and pay rent. Despite that, the government allowed them to engage and operate their business. The Local Government Unit (LGU) of the City of Koronadal, notably, ensures the security and well-being of the ambulant vendors by consistently carrying out patrols in their designated areas. This demonstrates that, despite the lack of financial aid, the focus remains on providing security assistance to maintain peace, allowing individuals to carry out their businesses and jobs without disruption.

Recommendations

The results of the study implied that while ambulant vendors have different nature in vending shared same experiences that have a negative effect on their livelihood and living. Hence, it is important to collaborate with local governments to advocate policies and programs to help lessen the negative effects of inflation. In addition, regular monitoring by the government is needed to the condition of the ambulant vendors who are experiencing to the negative effects of the inflation. Lastly, to make easy for the ambulant vendors to apply for such assistance or interventions the government should not require a lot of administrative documents that seems impossible to comply especially for the ambulant vendors.

Also, based on the study, results are implicitly stated how ambulant vendors becomes resilient, adapting strategies especially in online selling to help them combat inflation. Despite the fact that ambulant vendors employ several ways and strategies to mitigate the impacts of the inflation, the government must facilitate a workshops or trainings to help them manage their business more efficiently in time of inflation. LGU should also provide trainings and support to ambulant vendors using the technology in a more useful manner in order for the ambulant vendor to connect with customers and expand their customer base. Lastly, that ambulant vendors should create cooperatives or associations to strengthen their collective voice and advocate for their needs.

Ambulant vendors directly stated that there is no assistance in any form that they receive. Granted that there is a security assistance provided by the government to conduct their business in a peaceful way, they did not consider this as a form of assistance. The government especially the LGU should educate more the ambulant vendors that assistance and intervention come in many forms. Financial assistance is just one of them. In addition, government should conduct a symposium why inflation happens and why it is an inevitable phenomenon to happen in the community and lastly, LGU of

Koronadal should give a financial assistance to the ambulant vendors to help them finance their business smoothly and efficiently.

Compliance with Ethical Standards

The participation of ambulant vendors in the study was entirely voluntary, with a strict adherence to confidentiality protocols throughout. Measures were meticulously implemented to ensure the anonymity of participants, including the removal of names during data analysis and the assignment of numerical identifiers to prevent bias. Prior to conducting interviews, researchers followed a structured protocol and obtained informed consent from each participant, respecting their rights and privacy. The consent form outlined participants' rights to accept or decline interviews and detailed confidentiality provisions to protect their privacy. Throughout the study, the researchers prioritized the well-being of participants and maintained integrity in reporting findings and quotes, fostering a respectful and honest environment.

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CONSCIENTIZING EXTENSION: MVGFC- CEOPs IMPACT ON THE LIVES OF THE PEOPLE IN BARANGAY TALIPAPA, CABANATUAN CITY, NUEVA ECIJA

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ABSTRACT

A meaningful, relevant, and sustainable community extension, and outreach program (CEOP) is an integral component of the development program of a Higher Education Institution (HEI). A community extension and outreach program along the expertise and programs of the institution is a major requirement not only for the accreditation of programs which accrediting agencies such as the Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA) look for but also the Commission on Higher Education (CHED). Just like any other HEIs, Manuel V. Gallego Foundation Colleges, Inc. (MVGFCI) would like to engage in a sustainable outreach program to help improve the lives of marginalized individuals, families, and the community. However, the search for a barangay which will accept, cooperate, and sustain the development efforts of the institution for the community has been a challenge in the past for the institution. CEOP activities for the barangays chosen were either changed or terminated and therefore not sustainable. But in 2019, the college officially adopted Barangay Talipapa in Cabanatuan City to embark it new set of programs. MVGFCs CEOP is anchored from our Research, Development and Extension (RD/E) Agenda which is focused on poverty alleviation. MVGFC believes that the marginalized sector in our society needs support for them to “stand at their own” and given the time and opportunity, improved quality life could materialize if the proper programs for them are formulated and implemented. This research highlights the effectiveness of Community-Based Participatory Action Research (CBPAR) as an efficient tool not only in the field of research but also in increasing ontological collective action. The paper also emphasizes the importance of the CEOP as a framework for understanding the relationship between education, community extension

and outreach programs, and individual and social transformation. MVGFCs CEOP demonstrate the power of critical pedagogy and community engagement in promoting transformative and emancipatory learning. By involving the community in problem-solving and co-creation of knowledge, MVGFCs CEOP was able to achieve a more inclusive and participatory approach to development. The research provides valuable insights into the importance of engaging with communities in a meaningful way and the role of education in promoting individual and social change.

Keywords: *Community Extension and Outreach Program, Community-Based Participatory Action Research (CBPAR), Talipapa, COVID-19, Academic and community alignment*

INTRODUCTION

Education has had a dual purpose throughout history, aiming to enlighten people's consciences and shape the minds of future generations, impacting interpersonal interactions, communities, and societies. However, globalization has transformed people's perspectives and the way they perceive the world, leading to changes in education's mission, function, orientation, and structure (Avoseh M., 2009).

Higher Education Institutions (HEIs) play a critical role in achieving the United Nations' 2030 Sustainable Development Goals, particularly in the areas of universal education and community development. However, these institutions face the challenge of re- establishing critical examination as the foundation of education and breaking free from the constraints of tyranny. To achieve this, they must leverage sociocultural structures and relationships to advance their goals. The history of Community Extension Services (CES) in colleges and universities sheds light on how it has impacted student life, education, and human conscience. The Spanish missionaries established "Model Farms" or "settlement farm schools" during the 333-year colonization from 1521 to 1854, according to Oliveira (1994).

Higher Education Institutions (HEIs) have a responsibility not only to provide quality education but also to contribute to the betterment of society through community extension and outreach program (CEOP). This is why CEOP should be integrated into the HEI's mission and vision, as it complements the institution's instructional and research programs. Community extension services play a vital role in the development of communities. It serves as a bridge between the institution and the community, facilitating the transfer of knowledge, skills, and technology from the academic sector to the community. The goal is to empower individuals and communities by providing them with the necessary tools and resources to become self-sufficient and sustainable.

HEIs can develop strategies and initiatives that are aligned with the needs of the community. These initiatives could focus on education, health, environment, or livelihood, among others. The programs should aim to have a comprehensive impact and promote sustainable development. It is also essential to establish a strong partnership with the

community and involve them in the planning and implementation of these initiatives. Through community extension services, HEIs can make a significant contribution to society. By reaching out and touching the lives of communities, the institution becomes a catalyst for positive change. This not only benefits the community but also the institution itself as it strengthens its reputation and relevance in society.

CES enables higher education institutions to extend their educational programs beyond the boundaries of the classroom and touch the lives of communities and the environment. These programs have the potential to create self-sufficient communities through sustainable initiatives by transferring knowledge and technology. By providing CES, institutions can engage in a transformative emancipatory teaching and learning process within the discipline of critical pedagogy. As a result, CES has become an efficient tool not only in the field of research but also in increasing ontological collective action amidst individualistically dominated societal constructs.

CES is a critical aspect of a higher education institution's mission. It complements the institution's instructional and research programs and serves to contribute to the betterment of society. By establishing strong partnerships with the community and implementing sustainable initiatives, HEIs can become agents of positive change in their communities. In the Philippines, Community Extension Service refers to the programs and activities initiated by universities, colleges, and other educational institutions to address the needs of the local communities they serve. These programs aim to improve the quality of life of the people in these communities, promote social responsibility, and provide opportunities for students to apply their knowledge and skills in real-world settings.

The community project that the CES values most and that responds to essential human and communal needs. These are physiological needs that can be met by strengthening the community's health sector's ability to address potential issues; Safety and security are another group of human needs that can be met by an environmental program that is well-assessed, planned, and implemented for at least three to five years. Literacy will increase one's self-confidence and self-esteem, enabling them to become a highly productive member of their community. If these all-encompassing facets of man and community are given effective short- and long-term programs and services, they will eventually help create a sustainable, forward-thinking family and a functional community. The goal of CES projects is to provide services and programs that are consistent with the organizational plans and activities developed by each institute and to the college level. These plans and activities are logically aligned with the institution's vision and mission. To accomplish the primary and shared purpose of addressing the needs of the adopted community, it also utilizes the skills and knowledge of faculty and students.

Within the scope of a five-year plan, MVGFCs CEOP objectives are being worked toward, and the following generic indicators are being used to assess, analyze, and measure intervention: accessible and affordable community activities, objectivity, and continuity of programs, which includes tracking and evaluating progress and even revising plans as

necessary, and fostering a culture of volunteerism, connections, and collaboration with all potential stakeholders.

The impact on people's lives and the community it serves is the surest indicator of CEOP's efficacy. The primary determinant of its success is whether those in charge are receptive to and supportive of the demands of the community during the anticipated period of implementation. On the case of MVGFC, its CEOPs are anchored to its Research, Development and Extension (RD/E) Agenda which is focused on poverty alleviation. MVGFC believe that the marginalized sector in our society needs support for them to "stand at their own" and given the time and opportunity, improved quality life could materialize if the proper programs for them are formulated and implemented (MVGFC Manual, 2016).

The main area of intervention is anchored on providing livelihood to the residents because with these: health and nutrition will be improved; peace and order could be attained and ultimately through education; and knowledge will be enhanced and ultimately the environment will be protected and managed. According to MVGFC Manual of 2016, "We are committed to build a community of people living in harmony, caring one another, and protecting the environment to ensure that the future generation will enjoy the same resources as they have now and at the end inclusive growth and development will be attained."

The Central Luzon School of Nursing (CLSN, currently known as the Manuel V. Gallego Foundation Colleges, Inc. (MVGFCI), the first nursing school in Region 3, was established in 1960 by educator, lawmaker, and diplomat Dr. Manuel Viola Gallego. The institution's guiding principle was that those who were less fortunate in life should be given complete opportunities for overall development to lead better lives and contribute to a better society. This idea was rooted in the institution's founding fathers. In addition, it said that "We believe in voluntarily sharing our individual and collective expertise and resources with the community to improve the quality of life" about the reformed institutions' educational philosophy on extensions. strong, observable presence, and management through movement. We support a 'hands-on' management approach that entails being there where the action is taking place while monitoring, assessing, analyzing, interacting, inquiring, probing, learning, and comprehending the situation, problem, and needs" (MVGFCI, 1990).

MVGFCI adopted Barangay Talipapa for its Research and Extension Program on July 11, 2019, however because of the COVID 19 pandemic, not much was accomplished. A General Assembly of leaders took place on Saturday, August 6, 2022, at precisely 3:00 pm at the Barangay Chapel. Members of the Barangay Council, the SK Chairman, barangay workers like day care providers, BNS, BPO, and Purok Leaders, as well as representatives from PTA, Senior Citizens, Persons with Disabilities (PWDs), Parents Committee, and the Barangay Pastoral Council, attended the gathering. The major goals of the meeting were to identify requirements and challenges, recommend projects and potential solutions, and identify resources and competencies by industry. The MVGFC representatives grouped the participants into four groups based on common requirements

or industry sectors. The participant was able to identify three (3) prominent concerns that need to be addressed after an hour of the workshop: livelihood, waste management, and learning gaps (particularly in reading).

On June 20, 2022, the first meeting with the Talipapa Elementary School parents took place. A brief program was organized by the school staff and 13 parents attended. MVGFC received support and thanks from Barangay Captain Mirasol Dela Cruz and Mr. Henry Medrano, the school's principal, for their efforts to assist in the education of the parents. Mrs. Ma. Victoria R. Victa described the collaboration between the parents, Barangay Council, Talipapa Elementary School, and MVGFI to further the educational growth of their children through the Tulong Dunong Program.

A brief history of the learning areas that would be the focus was provided by Dr. Irene Apolinario of the Institute of Teacher Education (ITE) and Ms. Rochelle Sabado, an ITE graduate student. To further examine the areas of partnership for the Tulong Dunong Project, a consultation meeting was held on July 15, 2022, with the school head and teachers of Talipapa Elementary School.

During a courtesy call, Mrs. Ma. Victoria R. Victa, the Officer-in-Charge of Community Extension and Outreach at MVGFCI, discussed the "Tulong Dunong Project" (later renamed the ‘Alalay sa Pagbasa Program’) with the new principal of Talipapa Elementary School, Mr. Harron Dave S. Antonio. The Department of Education, responsible for the Alternative Learning System (ALS) in the region, was also present during the preliminary discussion.

Mr. Antonio welcomed the proposed intervention of teaching parents of struggling readers in Grades 5 & 6 but suggested that parents of non-readers in Grades 1 to 4 should be taught how to tutor their children at home, as challenges in reading should be addressed at the primary level. He also proposed that students of Teacher Education from MVGFC could tutor the struggling readers in Grades 5 & 6, given their practice teaching. They agreed to identify the parents and pupils involved to gather basic data for preparation, with further consultation to follow leading eventually to multi-disciplinary forms of MVGFCs CEOP.

As private and public sectors collaborate to tackle the gaps created by the COVID-19 pandemic, measures are being taken to address the scale of the problem. One innovative approach presented is the MVGFCs CEOP, which was inspired by the founders' worldview. The research model used in this approach is Community-Based Participatory Action Research (CBPAR), emphasizing the importance of community participation in the three stages of research work: pre, actual, and post epoch.

This study supports the 2030 Agenda for Sustainable Development Goals (SDGs) which was adopted by all United Nations Member States in 2015 and to Ambisyon 2040 of the Republic of the Philippines which aims to promote peace and prosperity for people and the planet, now and in the future, through a global partnership among all countries, developed and developing (SDG 2030). The study recognizes that eradicating poverty

and other forms of deprivation must be accompanied by strategies that enhance health and education, reduce inequality, promote economic growth, tackle climate change, and preserve our environment, families, societies, and future.

The outcomes of this research can contribute to addressing the local situation by introducing a new approach to understanding local intervention and pedagogy and formulating and implementing academic and non-academic socio-political policies in accordance with the vision, mission, and goals of MVGFC. These goals include individual and social transformation, which is cited as number 16 in its educational philosophies: "We believe in voluntarily sharing our individual and collective expertise and resources with the community for the purpose of improving the quality of life." Furthermore, the findings of this study can be beneficial to local policymakers in uplifting the lives of the people in Barangay Talipapa, while also aligning with the overall objectives of the national and international community.

The objective of this research is to help address the gaps that have emerged from the two-year lockdown resulting from the COVID-19 pandemic. It aims to contribute to the ongoing efforts of MVGFC to improve the lives of its partner community in the face of the current complexity of the world and the Philippine society. The general objective of this paper is to document the MVGFCs CEOP made at Barangay Talipapa, Cabanatuan City, Nueva Ecija from the period of March 2022 to August 2023. On the other hand, specific objectives are the following: to assess the needs, problems, and capabilities of the people of Barangay Talipapa; to assess the level of commitment of the people of Barangay Talipapa towards individual and social transformation; to evaluate the effectiveness of the MVGFCs CEOP from March 2022- August 2023; and to formulate effective and efficient academic and non-academic policies in terms of community extension.

In the case of Barangay Talipapa, we will be utilizing the Problem-Based Approach (PBL) because it focuses on the consolidation of raw feedback and reflection on the learning process. This approach is centered on group and collective dynamics, which are essential components in creating knowledge at both the individual and collective levels. According to Fostnot (1996), the process of learning is self-regulatory, and it involves reconciling personal models of the world with new insights encountered. This leads to the development of new representations of reality through cooperative social activity, discourse, and debate, resulting in meaning-making.

PBL places a greater emphasis on the learning process rather than solely acquiring knowledge, with an emphasis on interpersonal skills and communication. To achieve collective transformation, individuals must communicate and share information regularly. Social workers play a key role in facilitating an open dialogue, addressing communication barriers, and guiding the discussion. Critical dialogue is a primary means through which individuals can discover and redefine their world, which requires self-reflection and engaging in dialogue with clients. Important elements of critical dialogue include active listening, mutual trust, equality, patience, critical thinking, and a belief in the clients' ability to make positive changes (Christian & Jhala, 2015).

The core of Freire's theory is the concept of conscientization, which involves the power to transform reality through critical reflection on one's own world, perceptions, and reality, by perceiving the relationships among objects and their reasons for being. The dialectical approach, which involves cooperation between internal and external actors, can make the conscientization process feasible. According to Freire, consciousness is fragmented knowledge, while conscientization is a process of critical reflection that helps individuals become aware of their own worldview and reality. To sum up, the key concept of CEOP involves merging the influential impact of conscientization theory in education and social work. The implementation of this theory by universities and colleges in practice aims to achieve ontological liberation. CEOP aims to encourage critical pedagogy to foster a positive transformation in the lives of people and communities through cooperative intervention and education that promotes emancipation.

Research Questions

1. Was MVGFC-CEOPs extension of knowledge significant?
2. Was there a manifestation of alignment and integration on instruction, research, and extension on MVGFCs CEOP?
3. Is there any ground for MVGFC-CEOP to continue its extension program?

METHODOLOGY

The exploratory nature of the research justifies the use of qualitative research methods. To ensure the quality of the study, MVGFCs CEOP and RDO approved tools such as profiling and skill assessment instruments, questionnaires for individual and group interviews, and other relevant methods were utilized.

The researcher has opted to utilize qualitative research methodology, which involves gathering and analyzing non-numerical data (such as text, video, or audio) to gain an understanding of concepts, opinions, or experiences. This approach is frequently employed in the humanities and social sciences, including fields such as anthropology, sociology, education, health sciences, and history. One reason for choosing this research design is its flexibility and ability to retain rich meaning when interpreting data. To evaluate parents' understanding of the multi-disciplinary CEOP approach, the researcher conducted Focus Group Interviews (FDIs), Individual Interviews (IIs), Reflective Approaches (RAs), and Empirical Observations (EOs).

It is important to note that although the research design chosen is Community-Based Participatory Action Research (CBPAR), it is still aligned with the eight (8) approaches of Conscientization Theory. These approaches, such as grounded theory, ethnography, action research, phenomenological research, and narrative research, share some similarities but have different aims and perspectives. Additionally, CBPARs approach, developed by DA-BAR, aims to transfer, and adopt technologies from research to farmers' utilization. This program enhances the role of research and development in technology transfer and production management, institutionalizes the active community participation

in the management of farm and coastal resources, and develops strategies for effective integration of support services for enterprise and agribusiness development.

To gather socio-demographic information, needs assessment and profiling was used. In April 2022, the Office of Cabanatuan City Planning and Development (OCCPD) conducted a contemporary data assessment to evaluate the initial status and level of social condition of the people of Barangay Talipapa. The data were provided by the local government unit of Nueva Ecija and were crucial in identifying the needs of the community. Using the data collected, the CEOP was able to identify the areas that require improvement in Barangay Talipapa. These areas may include infrastructure, healthcare, education, and social services. To address these issues, MVGFCs CEOP recommended updating the current Barangay Profile.

Updating the Barangay Profile will involve close coordination with the members of the Barangay Council and the partner community. It is important to have the participation of the community in updating the profile to ensure that their needs and concerns are properly reflected. The updated Barangay Profile can serve as a useful tool in the planning and implementation of development programs and projects in Barangay Talipapa. It can also serve as a reference for partner organizations and government agencies that may be interested in providing support and resources to the community. Moreover, the contemporary data assessment highlights the importance of data-driven decision-making in community development. By collecting and analyzing data, it is possible to identify the needs of the community and develop effective strategies to address them.

The next phase is the processing stage wherein after identifying the issues and concerns of the community through a General Assembly, MVGFCs CEOP began implementing several steps to develop effective strategies for community development. The first step in the processing stage was the re-validation of the current Barangay profile. This is an important step because it ensures that the information collected about the community is accurate and up to date. The re-validation process involves verifying the data collected in the previous profile and updating it with new information. The second step was the re- validation of the supplemental data through the CPDO form presented to the Barangay Council. This form collects data on the community's demographics, infrastructure, social services, and other important factors that affect the community's well-being. By collecting this data, MVGFCs CEOP can develop a more comprehensive understanding of the community's needs and priorities. The third step was the preparation for a sectoral General Assembly. This involves identifying the different sectors of the community and holding separate General Assembly (GA) for each sector. This approach ensures that the specific needs and concerns of each sector are addressed and included in the community development plan. The fourth step was the re-institutionalization of MVGFCs CEOP. This involves signing a Memorandum of Agreement (MOA) with partner organizations and government agencies to formalize their commitment to support the development of Barangay Talipapa. The MOA serves as a framework for collaboration and resource sharing.

Finally, MVGFCs CEOP tapped potential stakeholders to support the development of Barangay Talipapa. This involves identifying organizations and individuals who have the capacity and willingness to contribute to the community's development. These stakeholders may provide financial support, technical expertise, or other resources to help implement the community development plan.

RESULTS AND DISCUSSION

Alalay sa Pagbasa

Mrs. Ma. Victoria R. Victa, the esteemed Director of the Community Extension and Outreach Program at MVGFCI, recently engaged in a courtesy call with Mr. Harron Dave
S. Antonio, the newly appointed principal of Talipapa Elementary School. Their discussion revolved around the transformative "Tulong Dunong Project," subsequently rebranded as the "Alalay sa Pagbasa Program." This program has a profound mission – to provide essential assistance to struggling readers within the community.

Mr. Antonio, the visionary principal, proposed a strategic shift in program focus, suggesting that it should target the parents of non-readers in Grades 1 to 4. He astutely recognized that the foundation for successful reading skills must be laid at the primary levels. In a brilliant twist, he advocated for equipping parents with the skills to guide their children's reading journeys at home, believing this approach would yield greater efficacy than direct intervention with struggling readers. Furthermore, he envisaged Teacher Education students from MVGFC contributing to the program by tutoring Grades 5 and 6 students as part of their practice teaching courses. They concurred on the need to identify beneficiaries, including both parents and pupils, to collect crucial baseline data for program preparation.

Consequently, the official beneficiaries of the Alalay sa Pagbasa Program expanded to encompass the parents of non-readers in Grades 1 to 4, along with the struggling readers in Grades 5 and 6. This marks a pivotal moment in addressing the reading challenges faced by the students of Barangay Talipapa. By targeting both parents and students, a collaborative effort is forged, dedicated to enhancing the children's reading skills, ultimately fostering improved academic performance. The involvement of MVGFC's Teacher Education students promises a dual benefit – aiding struggling readers and offering invaluable practical experience to future educators. The ultimate success of this program hinges on the active participation and cooperation of all beneficiaries and stakeholders.

Additionally, complementing the supplementary feeding packs, the City Social Welfare and Development Office (CSWDO) launched a Food for Work project to address hunger among Talipapa Elementary School pupils. The project, bolstered by a generous contribution of P 13,000.00, also received support from the Banatu Elite Eagles Club with a contribution of P 4,500.00, and a donation of P 2,500.00 from Ms. Juliet Tabonan. These

donations are indispensable to the program's success, ensuring that the young residents of Cabanatuan City receive the nutrition necessary for their holistic development.

In an exceptional collaboration with the Cabanatuan City Social Welfare and Development Office (CSWDO), led by the dedicated Mrs. Helen S. Bagasao, an additional ten parents joined the initial four in the inaugural community gardening endeavor. In recognition of their dedication, they qualified for the Food for Work program, entailing two family packages valued at P1,240.00 each. These packages would be distributed upon completion of their five-day engagement in community gardening at Talipapa Elementary School. The school's active participation in the Department of Education's school-based gardening initiative, facilitated by CSWDO's local link, Ms. Rhelaine Ocampo, signifies a commitment to holistic education and community development.

The Institute of Nursing and Allied Health Sciences, alongside its esteemed faculty and students, added a significant dimension to the program by conducting a meticulous weighing program for the participating pupils. The ITE's Alalay sa Pagbasa Project emerged as a cornerstone of the Community Extension and Outreach Program, intersecting with the objectives of various institutes. Initially led by Mr. Lou Santos from the ITE Faculty for Grades 1-4, this intervention spanned three months, commencing with 14 parents as active participants. While external factors such as scheduling conflicts, job commitments, and personal obligations led to a gradual decline in participation, initial significant impacts were observed among the parents of Grades 1-4 and the pupils of Grades 5-6 at Talipapa Elementary School.

The initial phase faced challenges, including schedule constraints and the absence of a comprehensive intervention plan and evaluation tool. Consequently, Mr. Santos had to withdraw from the project, leading to the introduction of the Phil IRI as a replacement, albeit introduced late in the year 2022.

In January 2023, following an in-depth assessment, the decision to entrust the pilot project's implementation to MVGFC High School was made. The MVGFC High School Department successfully maintained and managed the participation of the four parents involved throughout the year. To address the challenge of providing alternative work opportunities and equipping beneficiaries with new skills, livelihood training programs were introduced.

Meanwhile, Mr. Santos assumed responsibility for the reading tutorials for Grades 5-6, assisted by five dedicated ITE students. However, the absence of a structured outline for the reading tutorials posed a challenge, impacting the effectiveness of the intervention. Despite the shortcomings noted in the initial phase, parents of Grades 1-4 and pupils of Grades 5-6 at Talipapa Elementary School reported noteworthy positive impacts.

The Alalay sa Pagbasa Program at Talipapa Elementary School strives to augment the reading skills of both students and parents through two distinct components. Initially led by Mr. Louis Santos, the first part involved providing reading

intervention to parents of

Grades 1-4 and engaging ITE student volunteers with Grades 5-6 students. However, due to scheduling conflicts for the A.Y. 2022-2023 Second Semester and the inadequacies of the evaluation tool, the intervention for parents of Grades 1-4 transitioned to the MVGFC High School Department after three months.

The MVGFC High School Department embraced a more systematic and scientific approach to the program, featuring a concrete lesson plan and utilizing the Phil IRI evaluation tool. This seamless transition underscored the significance of having a well- defined plan and evaluation system to ensure program efficacy.

The second part of the program involved reading tutorial sessions, where ITE students devoted at least an hour to Talipapa Elementary School. Regrettably, a structured outline and evaluation tool were absent, undermining the intervention's potential. To heighten the program's effectiveness for parents of Grade 1-4, it is advisable to develop a robust evaluation tool for both program segments. Such a systematic and scientific approach will undoubtedly lead to enhanced support for students and parents in their reading journey, ultimately improving academic performance. By addressing these weaknesses, the reading intervention program can expand its reach and make a more significant impact, truly meeting the needs of the Gallegan community residents.

Concurrently, Mr. Santos continued to oversee the reading tutorials for Grades 5-6, aided by ITE students. However, the absence of a structured outline for the reading tutorials remained a challenge, hindering the intervention's effectiveness. A structured outline would provide guidance, ensuring that reading tutorials are organized, engaging, and tailored to the specific needs of Grades 5-6 students.

Recognizing the imperative of sustainability and empowerment, MVGFC High School introduced livelihood training into the project. This additional facet seeks to equip participants with new skills and knowledge, thereby expanding their employment opportunities or enabling them to engage in income-generating activities.

The livelihood training programs offered by MVGFC High School serve as a practical solution to the limited work options faced by project-involved parents. These programs encompass entrepreneurship, vocational skills, and specific trades, equipping beneficiaries with the tools to pursue alternative livelihoods. This approach not only enhances economic prospects but also nurtures self-reliance and resilience within the community.

Moreover, by integrating livelihood training, MVGFC High School showcases a holistic approach to community development, recognizing that sustainable initiatives must encompass practical application of skills and knowledge. This comprehensive approach ensures that beneficiaries receive not only theoretical instruction but also the opportunity to apply their newfound skills.

Through collaborative efforts between MVGFC High School and committed parents, the project transcends immediate needs, emphasizing long-term sustainability. By

amalgamating education, community engagement, and livelihood training, the project aspires to generate a lasting impact that endures beyond the pilot phase.

Nevertheless, ITE Student Volunteers' reflections underscored the positive impacts witnessed despite the acknowledged shortcomings. Their individual evaluations highlighted the strengths and weaknesses observed during the program.

"On my first day of tutoring, I had the pleasure of working with three students: Jaycee, Angelo, and Arlene. Jaycee and Angelo are both in Grade 5, while Arlene is in Grade 6. To assess their reading abilities, I prepared some materials for them to read in both Filipino and English. During the session, I observed that Arlene had difficulty pronouncing English words, while Jaycee showed great knowledge and proficiency in reading. Angelo, on the other hand, struggled with reading even in his native language, but all three students were eager to learn and showed potential for improvement. Despite their differing abilities, I found that all three students were committed to their studies and were doing their best to learn. As a tutor, it is my job to provide them with the support they need to succeed, regardless of their starting point. With continued effort and guidance, I am confident that all three students will be able to make progress and reach their full potential" (Adam, 2023).

"It has been almost seven months since we started tutoring the students of Talipapa Elementary School, and I am pleased to see that my students have shown significant progress. Despite meeting them only once a week, I am proud to witness that a sizable portion of my students are learning new things and are able to read words that they previously found challenging. The transformation in their reading skills is remarkable, and it is heartening to see them read more quickly and proficiently than before. Throughout this tutoring program, I have observed distinct changes in each of my students. From the first day of our session, I have noticed the difference in their skills and abilities, and I am grateful to have been part of this journey. Jaycee has proven to be quite knowledgeable and proficient in reading, while Angelo initially struggled with reading even in Filipino but now reads more competently. Arlene, on the other hand, had difficulty pronouncing English words, but with patience and guidance, she has made notable progress" (Cruz, 2023).

"As a tutor, this program has provided me with the opportunity to gain teaching experience and enhance my skills as an educator. Witnessing my students' progress is immensely gratifying, and I am proud to have contributed to their development. Being part of this community service has enabled me to share my knowledge with students and make a positive impact on their lives. It has been an incredible experience to be part of their journey and see them grow, and I am grateful to have been a part of it" (Adam, 2023).

"I can say that the children have made great improvements because, from simple words to difficult words that they read, they are learning them. They became even more active and diligent when it came to school" (Tayao, 2023).

“During the initial meeting with my students, I observed that many of them struggled with various weaknesses. Specifically, I noticed that they were slow in reading English texts and had difficulties with letter sounds, understanding meanings of words, and spelling. However, over the past few months of teaching, I have seen remarkable progress in their reading skills. The children are eager to learn and have shown enthusiasm and enjoyment during our tutoring sessions. I believe their motivation and satisfaction have been boosted by the fun activities we do before the teaching starts and the rewards they receive afterward. Despite the positive developments, we have encountered some challenges along the way. Some children have not been able to attend school regularly, which affects their progress. We have also faced difficulties due to the lack of teaching materials and limited teaching time. Despite these obstacles, I remain committed to helping my students improve their reading skills and overcome these obstacles. Teaching these children has been a fulfilling experience for me as well. I have learned how to be patient, creative, and resourceful in my teaching methods. Seeing my students' progress and excitement in learning has been rewarding and has motivated me to continue doing community service” (Mercado, 2023.)

"When evaluating the students, I have noticed several strengths that they possess. Firstly, their willingness to learn how to read English effectively is evident. I have observed how the students participate actively in our tutorials, reading little by little and taking in the reading advice we give them. This eagerness to learn is a key strength that will serve them well in the future. Another strength that I have seen is the progress they have made in their reading mastery. Our guidance and tutorials as teachers have helped the students improve their reading skills significantly. In fact, my two students have shown marked progress in their reading, and my classmates have also shared stories of their students' reading mastery improvements. It's gratifying to know that our efforts are making a positive impact on these young learners. Lastly, I am impressed by the students' attentiveness during our tutorial sessions. They pay attention and actively participate, demonstrating their desire to learn more about reading. It's clear that they are taking their education seriously and are motivated to improve themselves. Overall, I am proud of the progress they have made and excited to see how much more they can achieve with our continued guidance” (Macasero, 2023).

“Throughout the entire journey of teaching the kids how to read, it was such a great experience for me who’s aspiring to become a teacher. Our students became progressive in learning how to read although it might be too slow. A progress is still a progress no matter how slow or fast it is. I am glad that I was given a chance to be part in this kind of community service since it felt so good to share your knowledge with other people, especially to kids. Reading plays an important role in education because it is our weapon to be knowledgeable. This community service that MVGFC had perpetrated is helpful and hopefully, the Institute of Teacher Education would continue to do it so that no students would be left behind” (Macasero, 2023).

“Our observation in our first teaching to elementary school students in Talipapa was that most of their weaknesses were reading comprehension, spelling words, etc., and I am happy because they are gradually getting past these stages or trials of theirs as students.

And I was happy because I saw from the beginning to the end that they were willing to learn every day that we would teach them. And their strength that I saw is that they show loyalty, honesty, and are cooperative students with us as student teachers. They show respect to us. Now, even though I know I'm still a little far from my dream of becoming a teacher, they have been one of the things that inspired me to continue with my course" (Cruz, 2023).

These observations are consolidated below:

Strengths:

- The willingness of students to participate, activeness, and eagerness to learn.
- Progress in reading skills, even though some students started as slow readers.
- Students' attentiveness and commitment to learning.

Weaknesses:

- Students' slower reading pace, particularly in unfamiliar words.
- Lack of mastery in alphabet letters impacting reading proficiency.
- Limited teaching time due to one-hour sessions.

Recommendations:

- Continuation of the Alalay sa Pagbasa program.
- Increase in tutorial duration to two hours per session.

Despite the obstacles, the collaboration between the Cabanatuan City Social Welfare and Development Office (CSWDO) and parents involved in the community gardening project stands as a testament to collective commitment. The Food for Work program, facilitated by CSWDO, rewards parents for their dedication to the community gardening initiative, showcasing a shared determination to uplift the local community. The school's active involvement in the Department of Education's gardening program further underscores its holistic approach to education and community development, with diligent monitoring by CSWDO's local link, Ms. Rhelaine Ocampo, ensuring progress and effectiveness.

Integration on the Non-Teaching Staff

The office of the Community, Extension, and Outreach Programs in collaboration with non-teaching units such as the Student Affairs Office (SAO) and the library, as well as various school organizations, organized a storytelling event using Big Books to celebrate Library Week on November 29, 2022. The event also included a feeding program for the pre-elementary beneficiaries of Talipapa Elementary School, which was well-received by both the children and their parents. This event was an excellent marketing tool as it was focused on the future of their children.

Around 50 pupils participated in the activity, and it proved to be an effective way of marketing through the lead character "Manuel" in the play. The storytelling event was well-planned and executed, with the collaboration of the different units and organizations involved. It aimed to promote reading and literacy among young children and to provide a fun and engaging way of learning.

The inclusion of a feeding program was a thoughtful gesture that highlighted the school's concern for the welfare of the community. This added element created a positive impact on the event's overall success, as it provided an opportunity for the school to engage with the community and show its support.

Basic Journalism Workshop

On November 22, 2022, the Office of the Institute of Teacher Education (ITE) responded to the request of Talipapa Elementary School (TES) to conduct a Basic Journalism Workshop for their pupils. The request was granted, and Mr. Rene Boy E. Abiva was assigned to facilitate the workshop for the pupils who will be joining the District School Press Conference on December 15, 2022.

The workshop aimed to equip the pupils with the basic knowledge and skills in journalism, such as news writing, feature writing, and editorial writing. This would help them prepare for the competition and enhance their abilities to communicate effectively in writing. It is also an opportunity for the pupils to explore their passion for writing and develop their potential in the field of journalism.

The workshop was conducted on December 2, 2022, at (TES). Mr. Abiva facilitated the workshop for English and Filipino writing with the help of the school's English teachers. The pupils actively participated in the workshop, and they were able to learn the fundamentals of journalism and apply them in their writing exercises.

The Basic Journalism Workshop is an excellent initiative that supports the development of the pupils' skills and talents. It is also a testament to the commitment of the Manuel V. Gallego Foundation Colleges Inc. in providing quality education and contributing to the betterment of the community. The workshop was concluded effective because 15 pupils of (TES) were able to join and won the District Press Conference. The school's 2nd place out of 7 participating schools is a clear indication of the workshop's effectiveness and the students' dedication. This success has also allowed the school to participate in the Division School Press Conference.

On the other hand, these manifests the foundation's commitment to empowering and supporting its adopted community through various programs and interventions has positively impacted the students' academic growth and development. The success of the workshop and the competition also reflects the foundation's dedication to promoting quality education and academic excellence.

Training on Digital Learning Tools

The partnership between the Institute of Teacher Education (ITE) and the Institute of Information and Communications Technology (IICT) in Talipapa is an example of how a multi-stakeholder approach can address complex educational issues. The workshop facilitated by Mr. Nikol Bernardino and 20 ITE students equipped stakeholders with the latest knowledge and skills to use digital technology in teaching and learning. The multi- stakeholder approach ensures solutions are relevant, feasible, and sustainable, engaging different stakeholders such as educators, technology experts, and community members. The partnership between ITE and IICT highlights the role of technology in enabling communities to adapt to changing circumstances and promote inclusive and equitable education, bridging the digital divide. One tangible impact of the training on digital tools was the creation of Talimansi Dishwashing Liquid logo designed by one of the Alalay sa Pagbasa participants.

Digital literacy, or the ability to use technology effectively, is also important, especially for parents who play a critical role in supporting their children's learning. This underscores the need for comprehensive and sustained efforts in promoting digital literacy and inclusion, including the provision of training and capacity-building programs. The suggestion to coordinate and collaborate with Talipapa Elementary School and other government and non-government organizations to provide computers for parents is a practical and viable solution to address the digital divide. This initiative can also contribute to building partnerships and networks that can support future efforts in promoting equitable and inclusive education. The involvement of other stakeholders, such as NGOs and government agencies, can also bring in additional resources and expertise that can enhance the effectiveness and sustainability of the initiative.

Advance Journalism Workshop

The Manuel V. Gallego Foundation Colleges Inc. responded positively to the request of Talipapa Elementary School's principal. On January 6, 2023, Mr. Rene Boy Abiva conducted a comprehensive training on campus journalism. The workshop aimed to enhance the knowledge and skills of the school paper advisers and student writers of TES in preparation for the Division School Press Conference.

The training session tackled different topics such as news writing, editorial writing, feature writing, and sports writing. Mr. Abiva also emphasized the importance of responsible journalism, ethical standards, and accuracy in reporting. The training was attended by 30 school paper advisers and student writers.

The success of the training session was evident in the results of the Division School Press Conference held on February 1-3, 2023, at Camp Tinio. Talipapa Elementary School won first place in the feature writing category, and three pupils qualified to join the preliminary screening for the Regional School Press Conference. The school and community members were grateful for the support and expertise provided by the MVGFC in their pursuit of academic excellence.

The Basic Journalism Workshop, with the help of the MVGFC, has effectively developed the pupils' skills and knowledge in journalism and reporting. The school paper adviser and principal's dedication and guidance are also crucial factors in the students' success. The foundation's continued support for the school reflects its commitment to promoting education and community development. Talipapa Elementary School's achievement can inspire other organizations and stakeholders to invest in promoting education and community development, particularly in journalism and communication skills among the youth. Overall, this success is a reminder of the importance of investing in education and community development and inspiring other organizations and stakeholders to collaborate towards this end. The success of one student from Talipapa Elementary School in passing the first screening for the Regional Press Conference is a significant milestone for the school and its journalism program. This achievement is a testament to the effectiveness of the Basic Journalism Workshop in developing the skills and knowledge of its students.

Seminar- Workshop for Creative Writers

The book project entitled "TALIPAPÂ: Antolohíya ng mga Tulâng Pambatà" is a collaborative effort that involved various literary contributors from different levels and institutions. The book aimed to increase the knowledge and creative skills of the pupils of Talipapa Elementary School, as well as to promote general literacy, which is one of the Sustainable Development Goals (SDGs) of the United Nations.

The literary contributors from Talipapa Elementary School are Briana S. Tabora, Mary Luna T. De Guzman, Lance Andrei DC. Legado, Eurie Jhane D.S. Garcia, Samantha Faith V. Reyes, Princess Elize B. Sunio, Cyrex S. Dela Cruz, Clowie Dain B. Relucio, Ethan Dyezel C. Maple, Precious Love R. Salvador, Amethyst Amber B. Eslaya, Zia Khryzzamae DC Legaspi, and Ivy Clarise G. Tique. Meanwhile, the contributors from the MVGFC High School Department are Denella Denise C. Calderon, Allen S. Francisco, Danielle Angelo Sarte, Izziri Shantei Andres, and Jhaemine C. Domingo.

Faculty members from both the high school and tertiary levels of MVGFC also contributed to the book project. The faculty contributors are Dr. Ruth C. Alfonso, Nikol Reyes Bernardino, Jennelyn Dionisio, Johnwell Español, Ma. Victoria R. Victa, RSW, and Jhoar DC Gonzales. ITE students also participated in the project, namely Ronalyn M. Cruz, Donnalen V. Macasero, Shenalyn Pascual, and Rhea Mae Tayao.

The MVGFC Creatives Office, composed of talented and experienced graphic designers and artists, were tasked with the crucial responsibility of designing and laying out the book cover. With their expertise in creating visually stunning and impactful designs, they were able to craft a cover that perfectly captures the essence of the book and draws the reader's attention. The team worked closely with Mr. Abiva, the chief editor, and other stakeholders to ensure that the cover design reflects the book's themes and messages.

To ensure the quality of the book, author-writer and ITE faculty Mr. Abiva served as the chief-editor of the project while Professor Ronnel V. Talusan of Far Eastern

University

(FEU) and Mrs. Marites Rogado of Linangan sa Imahen, Retorika, at Anyo (LIRA) served as external critics. He collaborated with Dr. Ruth C. Alfonso of the Institute of Teacher Education (ITE) and the publication section of Samahang Lazaro Francisco (SLF) for the copyediting and proofreading of the book manuscript.

100 copies were published, and the book project was made possible through the support of various institutions, including the Knights of Rizal (Naga and Cabanatuan City Chapter), Independent Order of Odd Fellows (Kafagway and Nueva Ecija Odd Fellows Lodge No. 38), Freemasons (Logia Soberanya Independiente Masonerya, Palayan Masonic Lodge No. 331, and Cabanatuan City Masonic Lodge No. 53), and Knights of Phythias. They donated money amounting to P15, 750.00. The book was published by 7 Eyes Production (OPC) with ISBN 978-621-8194-47-2 from the National Library of the Philippines (NLP), and it is now available to the public.

The book launching of "Talipapa: Antolohiya ng mga Tulang Pambata" was launched on May 30, 2023. The event was attended by contributor writers and illustrators from TES and MVGFC High School Department and ITE. Parents of the contributors from Talipapa Elementary School including MVGFC, DepED-SDO Cabanatuan City, and Barangay Talipapa officials joined the event.

Dr. Soledad M. Roguel, PhD, Director of the MVGFC Research Office commended the exceptional efforts of the school and its students in producing such a remarkable anthology. In addition, Brgy. Chairman Mirasol Dela Cruz and SGOD Chief Wilfredo R. Sison, EdD expressed their support and congratulations to the young poets, acknowledging the significance of the book as a source of inspiration for the creativity and imagination of elementary pupils. They pledged their commitment to support the book by means of re-printing and distributing it throughout the entire district of Cabanatuan City. Furthermore, the DepEd Officers of Cabanatuan recognized the book as a best practice within the district and explored the possibility of distributing it at the regional and national level, suggesting the need for a Memorandum of Agreement (MOA).

One of the highlights of the event was the book signing session, a special moment that allowed the young poets to autograph copies of the anthology for the attendees. This interactive session not only provided a personal touch but also allowed the students to experience a sense of accomplishment and pride as they shared their work with others. It was a heartwarming sight to witness the joy and enthusiasm on the faces of the young poets as they signed their names, embracing their roles as published authors.

The significance of the event extended beyond the school grounds, as it garnered substantial attention and recognition. The DepEd Region 3 News Network televised the event throughout Region 3, allowing a wider audience to appreciate the remarkable achievements of Talipapa Elementary School. Mae Belle Ebuen, the Media Chief of DepEd- SDO Cabanatuan City, played a crucial role in ensuring comprehensive coverage of the event. The televised coverage reached an estimated 41,300 viewers online, bringing the creative endeavors of the young poets to a larger audience. Furthermore, on June 5, contributors from Talipapa Elementary School and their adviser, Mrs. Revelyn

Chua, were invited for an interview on Dep-Ed Hour. This interview, which aired on June 7, attracted 9,789 viewers online, providing further exposure for the book and the talented young poets behind it.

During the Division Management Committee Meeting of SDO Cabanatuan City on June 26, 2023, the representatives of MVGFC were formally recognized for their program supporting Talipapa Elementary School. The division aims to extend similar assistance to more schools in Cabanatuan to benefit from such initiatives. They expressed their appreciation and acknowledgment to MVGFC for their valuable contributions to Talipapa Elementary School. On the other hand, they express their commitment in replicating and expanding the Antolohiya Project on all schools under their jurisdiction. MVGFC expressed their gratitude towards DepEd- SDO Cabanatuan City for acknowledging their efforts and for recognizing the positive outcomes of their program at Talipapa Elementary School. The recognition not only validates their hard work but also motivates them to continue their mission to assist more schools and students in the future. The presence of Schools Division Superintendent Dr. Catalina Paez and Division Chief Priscilla Sanchez further added to the significance of the project and event. The support and encouragement of her office inspire both educators and external partners to actively engage in educational initiatives for the betterment of the community.

A consultation and finalization of MOA between SDO-DepEd Cabanatuan City and MVGFC was held last August 1 at MVGFC Conference Room. The participants are Ms. Teny Peralta (Executive Officer), Dr. Federico O. Perez (Presidential Adviser and Oversight Committee), Dr. Ruth Alfonso (Dean, ITE), Dr. Ingrid Calanno (Faculty, ITE), Mrs. Victoria R. Victa, RSW (CEOP Officer), Mr. Rene Boy Abiva (Program Coordinator, ITE), Ms. Sheila Marie B. Prieto (Representative, SDO-DepEd Cabanatuan City), and Ms. Cyrille Therese B. Monta (Representative, SDO- DepEd Cabanatuan City).

On August 24, 2023, an impactful event unfolded at The Church of Jesus Christ of Latter- Day Saints on Del Pilar Street in Cabanatuan City - the 2023 Community Partnership and Ceremonial Signing of Memorandum of Agreement (MOA) with Various Education Partners spearheaded by Department of Education, Cabanatuan City. Representing MVGFC were prominent figures such as Dr. Joseph L. Gallego, President of MVGFC; Ms. Estenily R. Peralta, Executive Officer of the President; Dr. Ruth R. Alfonso, Dean of the Institute of Teacher Education; Dr. Ingrid F. Calanno and Mr. Rene Boy Abiva, both esteemed ITE Faculty members; Mrs. Victoria R. Victa, Director of CEOP; and Ms. Erminda Esteban, an essential part of the Academic Staff. With an air of excitement and anticipation, the event commenced at 9:00 AM. Among the attendees were educators, representatives from various educational institutions, and local officials, all coming together for a common purpose.

Dr. Enrique E. Angeles Jr., a prominent academician with a PhD and CESO VI designation, took the stage to deliver an inspirational message. In his speech, Dr. Angeles emphasized the significance of partnerships in driving educational excellence and fostering holistic development among students. His words resonated with the audience, setting a positive tone for the rest of the event. The Schools Division Superintendent, Dr.

Catalina P. Paez, another accomplished educator holding a PhD and CESO V title, then addressed the gathering. Dr. Paez underscored the role of collaborative efforts between education institutions and the community in shaping the future of education. Her speech highlighted the importance of unity in achieving educational goals and enhancing the quality of learning experiences. Mr. Wilfredo R. Sison, PhD, the DepEd Chief of School Governance and Operations Division (SGOD), took the stage to introduce and present the various education partners participating in the event. With expertise in education administration, Dr. Sison provided insights into the collaborative endeavors these partners were set to undertake with the Department of Education (DepEd).

Leaders representing the Various Education Partners stepped forward to deliver their Statements of Confirmation, expressing their commitment to the shared goals outlined in the MOA. These leaders articulated their dedication to enhancing educational programs, improving access to resources, and supporting the holistic development of students in the community. The highlight of the event was the formal signing of the Memorandum of Agreement (MOA) between the DepEd and the Various Education Partners. This ceremonial act solidified the commitment of all parties involved to work together towards the betterment of education and the empowerment of students.

Following the MOA signing, a photo opportunity was provided, allowing attendees to capture the momentous occasion. Partners from both education and community sectors, as well as representatives from the DepEd, gathered for these memorable snapshots. The event concluded with closing remarks from the masters of ceremony from DepEd, Ms. Mae Belle Ebuen and Ms. Shiela Prieto. Their words expressed gratitude to all participants, highlighted the significance of the partnerships, and encapsulated the collaborative spirit that characterized the day.

The 2023 Community Partnership Cum Ceremonial Signing of MOA with Various Education Partners marked a remarkable step forward of MVGFC CEOP in the pursuit of educational excellence through collective efforts. It officially signaled a renewed sense of Gallegan purpose and dedication in shaping the future of education in Cabanatuan City. The signed MOA was officially turned over to MVGFCs CEOP by Dr. Cyrille B Domingo on September 15, 2023.

On a contrasting note, Mr. Rene Boy Abiva undertook a profound research endeavor titled "Conscientization, Pagpopook, at Pagpapakahulugan: Panimulang Kritisismong Post- Kolonyal sa Talipapâ: Antolohíya ng mga Tulâng Pambatà." His research not only made a significant impact but also garnered recognition on multiple esteemed platforms. Firstly, this thought-provoking research secured its place at the 1st Research Forum held on August 9 and 10, where it clinched the prestigious title of "3rd Best Paper" in the Faculty Category. This accolade reflects Mr. Abiva's dedication and scholarly excellence.

Furthermore, the research paper transcended national borders, earning acceptance at the 1st International Multidisciplinary Conference on Research and Extension scheduled for September 19-22, 2023, at Batanes State College. This international recognition underscores the global relevance and intellectual significance of Mr. Abiva's work in the

realm of post-colonial criticism. Notably, the research continued to make waves as it found its place at the 3rd International Conference on Literature Education hosted by Palawan State University, taking place from October 26 to 28, 2023. This dual international exposure reaffirms the impact and relevance of Mr. Abiva's research, extending its reach to a diverse audience of scholars and educators.

Conclusions

Based on the findings of the study, the researcher arrived at the following conclusions:

1. The success of the MVGFCs CEOP activities in improving reading skills in Barangay Talipapa exemplifies conscientization theory in action. By addressing the pupils' learning gap through targeted interventions, MVGFCs CEOP raised awareness and empowered the community to collectively tackle this issue. These efforts fostered critical thinking skills and sparked social change. Pupils gained improved reading abilities and self-awareness, while the community identified areas for further enhancement. This illustrates how education and collective action can drive positive change in a community.
2. MVGFCs CEOP success in Barangay Talipapa aligns with CBPAR. Through programs in livelihood and waste management, residents gained self-reliance, enhancing their economic and personal agency. Health initiatives improved physical well-being and community engagement. Encouraging responsible behavior increased youth and parental awareness, strengthening their sense of social responsibility. In essence, these efforts have empowered individuals to proactively shape their lives and community, showcasing the transformative power of collective action.
3. MVGFCs adoption of CBPAR highlights critical awareness and empowerment for personal and community betterment. In Barangay Talipapa, the community's eagerness to request seminars reflects their awareness of challenges and their proactive approach to addressing them. Collaboration with stakeholders provides resources and expertise, boosting their capacity and rapport. Empowerment fosters self-reliance, enabling better decision-making for community growth. This contributes to sustainable development and equity. With newfound knowledge and skills, the community becomes change agents, inspiring others. In essence, Barangay Talipapa's openness and collaboration align with conscientization theory, empowering individuals and communities for positive change and sustainable development.
4. MVGFC stresses the importance of community collaboration in development, exemplified by its CEOP work in Barangay Talipapa. Their joint efforts with the community and stakeholders have yielded positive results in livelihood, waste management, and education. Collaboration allows holistic, inclusive development, shared responsibility, and stakeholder involvement. It considers diverse ideas, leading to effective and lasting solutions. Collaboration empowers the community by involving them in planning and implementation, fostering pride, cooperation, and solidarity. It showcases MVGFCs CEOP commitment, building trust, and

ensuring sustainability. This collaborative approach reflects MVGFCs CEOP dedication to community development and its enduring partnership with the community.

5. MVGFCs CEOP one-year in Barangay Talipapa embodies their mission for sustainable development. Initiatives like promoting reading, digital learning, and staff integration align with the United Nations' Sustainable Development Goals (SDGs). This demonstrates MVGFCs CEOP commitment to quality instruction, research, and community extension. Collaborating with stakeholders ensures relevant, feasible, and sustainable programs. By engaging diverse stakeholders and promoting collective action, MVGFCs CEOP showcases how institutions can contribute to a better society and sustainable development.
6. Identified weaknesses in the MVGFCs CEOP highlight the need for enhancement. These limitations may have hindered program effectiveness and responsiveness to community needs. Addressing these weaknesses is vital for maximizing the programs' impact on individuals' lives. Refinement and improvement should involve revisiting program goals, strategies, and community feedback. This effort can lead to more extensive support, resources, and services, ultimately improving residents' quality of life. Continuous identification and correction of weaknesses are essential to better serve the community and create a significant positive impact on residents' lives.
7. MVGFCs CEOP emphasizes critical reflection and action for social change, relevant to community extension programs aiming to empower through education and action. Evaluating program effectiveness is crucial, especially for seminars and webinars whose impact may not be immediate. Long-term effects should be measured. In contrast, interventions like the Basic and Advance Journalism Workshop and Creative Writers Workshop have shown tangible transformation and impact by providing practical skills. These programs align with conscientization theory, offering tools for critical reflection and liberation. In summary, while seminars and webinars raise awareness, evaluating program effectiveness is vital. Programs providing practical skills have shown significant impact, aligning with MVGFCs goal of empowerment through education and action.
8. A well-designed lesson plan for Alalay sa Pagbasa and reading tutorials is crucial for effective interventions. While the ITE program had some impact, the MVGFC High School program's systematic approach was far more successful, retaining 4 out of 20 parents. Selecting the right faculty is vital for quality improvement and avoiding program weaknesses. Proper guidance during formative years is crucial for a child's academic success. Therefore, investing in well-designed and executed programs with the right resources and personnel is necessary to benefit students in need.
9. MVGFCs CEOP exemplifies the integration of academic programs for social relevance. The Alalay sa Pagbasa (ASP) initiative, conducted by MVGFC's Institute of Teacher Education (ITE) in Barangay Talipapa, aimed to address learning gaps caused by the pandemic. It involved parents of non-readers and a livelihood training program that led to the creation of Talimansi Dishwashing Liquid. Mr. Rene Boy Abiva and Mrs. Josefina O. Aranel conducted research on Project Talimansi's effects, earning recognition at MVGFC's Research Forum and at

international conferences. Furthermore, the Land Bank of the Philippines provided livelihood assistance to four active ASP and Project Talimansi participants, demonstrating the tangible benefits of academic-community-government partnerships in community development and assures the seal of good governance.

Recommendations

1. Proper documentation is crucial in the implementation of community service extension and policy making for several reasons. First, documentation serves as evidence of the activities, programs, and initiatives that have been implemented, which can be used to evaluate their effectiveness and make informed decisions about future actions. Accurate and detailed records of the implementation process can also help identify areas for improvement, identify best practices, and monitor progress towards goals. Second, documentation is necessary for accountability and transparency. It allows stakeholders, including community members, policymakers, and funders, to track the use of resources and ensure that the initiatives are aligned with the goals and objectives set. This transparency can help build trust and foster greater community involvement in the implementation process. Third, proper documentation can aid in continuity and sustainability. Documenting the implementation process and results can help ensure that the knowledge and experience gained can be passed on to future generations, and that programs and initiatives can be replicated or improved upon in the future.
2. To improve MVGFCs CEOP, it is necessary to conduct regular assessments and evaluations to identify areas for improvement. The programs should be designed to be more inclusive and accessible to a larger population in the community. Collaboration with other community organizations and stakeholders should also be strengthened to broaden the reach of the programs and achieve a greater impact. The programs should also be tailored to meet the specific needs of the community, and feedback from community members should be actively sought and incorporated into program development and implementation. Additionally, adequate resources should be allocated to ensure the sustainability of the programs and their long-term impact on the community.
3. To ensure the effectiveness of the reading intervention program at Talipapa Elementary School, it is recommended that a systematic and scientific approach be adopted. This includes the development of clear lesson plans and evaluation tools. Addressing the issue of the lack of lesson plans and evaluation tools will enable the facilitator to implement a more structured and goal-oriented intervention program that is better suited to the needs of the students and parents. By incorporating the Phil IRI evaluation tool and developing concrete lesson plans, the reading intervention program can be made more effective in addressing the students' reading needs. Additionally, providing training for the facilitator and ITE student volunteers on how to use the evaluation tool and implement the lesson plans will ensure that the intervention is delivered consistently and with quality. These recommendations, the reading intervention program at Talipapa Elementary School can become a more effective tool in promoting literacy and

empowering students and parents through education, ultimately leading to improved academic performance and long-term success.

4. Proper selection of an adopted barangay is essential in ensuring the success of community extension services without the interference of politics. The political status of the incumbent leaders in the barangay should be taken into consideration to avoid any compromising acts that may affect the delivery of community extension services. It is crucial to select a barangay where stakeholders, including government officials and community members, are committed to collaboration and are willing to work together towards the common goal of community development. The case of Barangay Talipapa serves as an example of how traditional politics can affect the long-term collaboration among stakeholders. The barangay had experienced conflicts and power struggles among its incumbent leaders, which had an impact on the delivery of community extension services. The involvement of politics in the barangay affected the cooperation and unity among stakeholders, hindering the development and progress of the community. By selecting a barangay with a stable political environment, community extension services can be delivered more effectively and efficiently. This can lead to better outcomes in terms of community development, as stakeholders are united towards a common goal without any political influence. The selection of an adopted barangay should be based on factors such as commitment to collaboration, willingness to work together, and a stable political environment to ensure the successful delivery of community extension services.
5. The inclusion of specific roles and responsibilities of the adopted Barangay in the Memorandum of Agreement (MOA) is crucial in ensuring the success of the partnership between the Manuel V. Gallego Foundation Colleges and the Barangay. The commitment of the Barangay to send their constituents to enroll in the Foundation Colleges is a key factor in maximizing the full potential of the 5- year duration of the agreement. This will not only benefit the students by providing them with quality education, but also contribute to the development of the Barangay by producing competent and skilled individuals who can contribute to their community. Aside from the commitment to education, it is also highly recommended that the Barangay allocates a justifiable fund for community development, in addition to the collective efforts of all institutions outside its territory. This will ensure that the community receives necessary services and support for their growth and development. With proper allocation and utilization of funds, the Barangay can provide essential services such as healthcare, infrastructure, and livelihood programs to its constituents. Moreover, the collective efforts of institutions outside the Barangay can complement the Barangay's efforts, resulting in a more comprehensive and sustainable development of the community. By including these specific roles and responsibilities in the MOA, the partnership between the Foundation Colleges and the Barangay can establish a clear and mutually beneficial relationship. This will create a strong foundation for collaboration and ensure the effective implementation of community extension services.
6. The continuation of Alalay sa Pagbasa in Talipapa Elementary School is crucial in sustaining the progress and achievements made by MVGFCs CEOP. The CES

program is an essential component of the MVGFCs CEOP commitment to uplifting the community and aligning their extension program with the Sustainable Development Goals (SDGs) of the United Nations. MVGFCs CEOP program has already yielded tangible results, such as the successful journalism and creative writing workshops, which produced outstanding works that reached regional screening for journalism and resulted in the publication of a book with an ISBN by 7 Eyes Production (OPC). These accomplishments serve as a testament to the effectiveness of MVGFCs CEOP program in improving the skills, knowledge, rapport, and commitment of the community. Discontinuing the MVGFCs CEOP program in Talipapa Elementary School would be a significant setback for MVGFC, as it would mean losing the opportunity to further cultivate and enhance the skills, knowledge, rapport, and commitment established within the span of one year. The MVGFCs CEOP program's impact is not only felt within the community but also resonates throughout the institution, providing valuable learning experiences for both the students and the faculty. The continuation of Alalay sa Pagbasa in Talipapa Elementary School is essential to sustain and further the progress and achievements made by MVGFCs CEOP. It is a valuable investment in the community, the institution, and the SDGs, and should be prioritized and supported.

7. Selecting the right faculty to facilitate Alalay sa Pagbasa is crucial because they will be responsible for delivering the program and ensuring that students receive the guidance they need. It is important to choose faculty members who are knowledgeable in teaching reading and have experience working with young learners. A faculty member with a background in education or literacy instruction would be ideal, as they would have the necessary skills and expertise to design effective lesson plans and provide targeted support to struggling readers. Investing in the right faculty and resources for programs like Alalay sa Pagbasa is essential to maximize time and resources for quality improvement. Without proper guidance and instruction, the program may not be effective in helping students improve their reading skills. A well-trained and qualified faculty can ensure that students receive the necessary support and guidance, which can lead to more successful outcomes.
8. In addition, selecting the right faculty can help to avoid the weaknesses of the program. For example, if the faculty member is not skilled in designing effective lesson plans or does not have experience working with young learners, the program may be less successful in helping students improve their reading skills. By investing in the right personnel, the program can be tailored to meet the needs of the students, ultimately benefiting their academic success. This is a critical step in ensuring that the program is effective and achieves its goals. By investing in the necessary resources and personnel, the program can provide targeted support to struggling readers and help to improve their academic outcomes.

Compliance with Ethical Standards

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program of the Institute of Teacher Education of the Manuel V. Gallego Foundation Colleges. The authors declare that they have no conflicts of interest. The research does not contain any studies involving animals performed by any of the authors. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants involved in the study. Plagiarism was strictly avoided, there was no bias in the interpretation of the findings, and that the results was used purely for research.

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CORPORATE GOVERNANCE, RISK MANAGEMENT AND OPERATIONS CONTROL PRACTICES OF THE INSTITUTIONAL MEMBER COOPERATIVES OF THE ZAMBOANGA DEL NORTE COOPERATIVE BANK: BASES FOR A DEVELOPMENT PROGRAM

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Abstract

The purpose of this study was to determine the extent of implementation of corporate governance measures, risk management systems, and operations control practices of the institutional member cooperatives of the bank, according to the evaluation of the Board of Directors, committees, and individual members to design a development program. A descriptive survey research design was used in this study. Questionnaires were used as the main instruments of data collection. These questionnaires were validated before they were distributed to 420 Board of Directors, committee members, and individual members of the institutional member cooperatives. The measures for corporate governance were taken to a moderate extent, risk management systems were implemented to a moderate extent, and operations control practices were implemented in the member cooperatives to a moderate extent. There was a significant correlation between corporate governance along the implementation of feedback systems, risk management systems, loss financing, and internal risk reduction. There was a significant correlation between corporate governance along the implementation of organizational strategies, statement of success indicators, and performance monitoring. There was also a significant correlation between corporate governance along the implementation of feedback systems, performance

monitoring, and deviation from standards. Based on the findings of the study, the researcher designed a development program entitled “Cooperatives for the Revitalization of Economic Endeavor for Development,” (CREED), which was composed of a series of brainstorming sessions that will solicit from the participants useful ideas for enriching a written development program.

Keywords: *Corporate Governance, Risk Management, Operations Control Practices, Institutional Member Cooperatives, Cooperative Bank*

INTRODUCTION

The capability of the cooperative movement to promote economic stability and development in the community has encouraged people to form cooperatives. For this reason, the residents of Dipolog City have become so convinced of the economic importance of cooperatives. However, not all cooperatives have been actively operating. Despite the problems arising in connection with the operation of cooperatives, the Zamboanga del Norte Cooperative Bank was established. The shareholders of the bank are cooperatives throughout the province of Zamboanga del Norte. The Cooperative Bank takes the responsibility of ensuring its sustainability as well as that of the member cooperatives.

Although there have been studies about corporate governance and its effective mechanism in running and managing business operations, this research endeavor explored the specific relationship between corporate governance, risk management, and operations control practices within institutional member cooperatives of the Zamboanga del Norte Cooperative Bank. This investigated how these practices interact and influence each other, as well as their impact on the overall performance and sustainability of the cooperatives.

In the performance of its function of monitoring the operations of member cooperatives, the Zamboanga del Norte Cooperative Bank management has realized the importance of appropriate governance, risk management system, and operations control practices in the cooperatives. While it is true that the Zamboanga del Norte Cooperative Bank provides technical guidance to cooperatives, valid and reliable data are still needed so that the management of the bank can institute measures and provide the necessary advice for ensuring the viability and sustainability of its member cooperatives. Data can be available mainly through scientific and objective research. For this reason, this study is conducted. The identification of bases for a development program suggests that there is a recognized need for improvement or enhancement in these areas. Conducting the study now can help in timely intervention and support the formulation of targeted strategies to address any gaps or challenges identified.

Research Questions

The purpose of this study was to determine the extent of implementation of corporate governance measures, risk management systems, and operations control practices of the institutional member cooperatives of the bank, according to the evaluation

of the Board of Directors, Committees, and individual members to design a development program.

The following subproblems comprised the guidelines for conducting the study:

1. To what extent have the following corporate governance measures been implemented in the institutional member cooperatives of the bank:
   1.1. Goal-Setting Mechanisms;
   1.2. Organizational Strategies;
   1.3. Administrative Policies and Procedures; and
   1.4. Feedback Systems?
2. To what extent have the following risk management systems been implemented in the institutional member cooperatives:
   2.1 Risk Control;
   2.2 Loss Financing; and
   2.3 Internal Risk Reduction?
3. To what extent have the following operations control practices been implemented in the institutional member cooperatives:
   3.1 Statement of Success Indicators;
   3.2 Performance Monitoring; and
   3.3 Correction of Deviation from Standards?
4. Is there a significant correlation between:
   4.1 the corporate governance systems and risk management measures of the institutional member cooperatives; and
   4.2 the corporate governance systems and the operations control practices of the institutional member cooperatives?
5. Based on the findings of the study, how may a development program for institutional member cooperatives of the bank be designed?

METHODOLOGY

A descriptive survey research design was used in this study to describe the measures of corporate governance, implementation of risk management systems, and operations and control practices.

The respondents of the study were the Board of Directors, committees, and individual members of 28 institutional member cooperatives throughout the province of Zamboanga del Norte. Out of the 1,400 population, 420 or 30 percent were the actual number of respondents. Having an average of 7 directors per cooperative, 5 were selected; with an average of 9 committees, 5 were taken; and 5 members were also chosen from each cooperative using purposive sampling from the respondents. The individual members were chosen according to their consistency of attendance as members from the date of the founding of the cooperative.

Three questionnaires were used as the main instruments of data collection. The Corporate Governance Evaluation Questionnaire, the Risk Management System Evaluation, Questionnaire, and the Operations and Control Practices Evaluation Questionnaires all consist of questions that are on a 5-point Liker scale with 5 = Great Extent as the highest and 1 = Never as the lowest. These questionnaires were presented

to three experts from the Cooperative Development Authority, the City Cooperative Officer of Dipolog City, and an official of the Land Bank of Philippines, to make a critique of the questionnaires used in this study. Subsequently, to determine the functionality of the questionnaires used in this study, the researcher conducted a dry run among forty members of the cooperatives based in Dipolog City. Each of the questionnaires was described here.

The Corporate Governance Evaluation Questionnaire. This questionnaire was used to evaluate the corporate governance of the institutional member cooperatives of the bank. The questionnaire contains four questions. Each question is followed by several items. Corresponding to each item are numeric scales with the following qualitative equivalents:

5 – Very Great Extent (VGE) means that the corporate governance measures of the institutional member cooperatives are conducive in all cases to the attainment of its goals and objectives. In the computation of the weighted mean, the result ranging from 4.21 –
5.00 would fall under this category.

4 – Great Extent (GE) means that the corporate governance measures of the institutional member cooperatives are conducive in the majority of cases to the attainment of its goals and objectives. In the computation of the weighted mean, the result ranging from 3.41 –
4.20 would fall under this category.

3 – Moderate Extent (ME) means that the corporate governance measures of the institutional member cooperatives are conducive in half of the cases to the attainment of its goals and objectives. In the computation of the weighted mean, the result ranging from
2.61 – 3.40 would fall under this category.

2 – Less Extent (LE) means that the corporate governance measures of the shareholder cooperatives are conducive in a few cases to the attainment of its goals and objectives. In the computation of the weighted mean, the result ranging from 1.81 – 2.60 would fall under this category.

1 – Never (N) means that the corporate governance measures of the institutional member cooperatives are not conducive to the attainment of its goals and objectives. In the computation of the weighted mean, the result ranging from 1.00 – 1.80 would fall under this category.

The Risk Management System Evaluation Questionnaire. This questionnaire was used to evaluate the extent to which systems of risk management have been implemented in the institutional member cooperatives of the bank. This questionnaire contains three questions. Each question is followed by several items. Corresponding to each item are numeric scales with the following qualitative equivalents:

5 – Very Great Extent (VGE) means that the procedures and processes for averting and encountering crisis are implemented in all cases. In the computation of the weighted mean, the result ranging from 4.21 – 5.00 would fall under this category.

4 – Great Extent (GE) means that the procedures and processes for averting and encountering crisis are implemented in the majority of cases. In the computation of the weighted mean, the result ranging from 3.41 – 4.20 would fall under this category.

3 – Moderate Extent (ME) means that the procedures and processes for averting and encountering crisis are implemented in half of the cases. In the computation of

the weighted mean, the result ranging from 2.61 – 3.40 would fall under this category.

2 – Less Extent (LE) means that the procedures and processes for averting and encountering crisis are implemented in a few cases. In the computation of the weighted mean, the result ranging from 1.81 – 2.60 would fall under this category.
1 – Never (N) means that the procedures and processes for averting and encountering crisis are not at all implemented. In the computation of the weighted mean, the result ranging from 1.00 – 1.80 would fall under this category.

The Operations Control Practices Evaluation Questionnaire. This questionnaire was used to evaluate the implementation of the procedures and mechanics of setting the standards of performance of people and the observance of the policies, rules, and regulations of the institutional member cooperatives of the bank. Each question is followed by several possible responses. Corresponding to each possible responses are numeric scales with the following qualitative equivalents:
5 – Very Great Extent (VGE) means that the procedures and mechanics of setting the standards of performance of people and the observance of the policies, rules, and regulations of the member cooperatives are implemented in all cases. In the computation of the weighted mean, the result ranging from 4.21 – 5.00 would fall under this category. 4 – Great Extent (GE) means that the procedures and mechanics of setting the standards of performance of people and the observance of the policies, rules, and regulations of the member cooperatives are implemented in the majority of cases. In the computation of the weighted mean, the result ranging from 3.41 – 4.20 would fall under this category.
3 – Moderate Extent (ME) means that the procedures and mechanics of setting the standards of performance of people and the observance of the policies, rules, and regulations of the member cooperatives are implemented in half of the cases. In the computation of the weighted mean, the result ranging from 2.61 – 3.40 would fall under this category.
2 – Less Extent (LE) means that the procedures and mechanics of setting the standards of performance of people and the observance of the policies, rules, and regulations of the member cooperatives are implemented in a few cases. In the computation of the weighted mean, the result ranging from 1.81 – 2.60 would fall under this category.
1 – Never (N) means that the procedures and mechanics of setting the standards of performance of people and the observance of the policies, rules, and regulations of the member cooperatives are not at all implemented. In the computation of the weighted mean, the result ranging from 1.00 – 1.80 would fall under this category.

The respondents were instructed to encircle the numeral which best represents their response to each item. The researcher gave instructions to the respondents by encircling the number that corresponds to their answer to every question. Each of the instruments was accomplished by 140 Board of Directors, 140 committee members, and also 140 individual members of the institutional member cooperatives.

Weighted mean was used to describe the extent to which corporate governance measures have been implemented, the extent to which risk management systems have been implemented, and the extent to which operations control practices have been implemented in the institutional member cooperatives. Pearson Product Moment Correlation Coefficient was used to determine whether or not there were significant relationships between the extent to which corporate governance measures have been implemented and the extent to which risk

management systems and operations and

control practices have been implemented. The relationship was tested at .05 level of significance.

RESULTS

The extent of implementation of corporate governance measures along with goal setting is shown in Table 1.

Table 1

The Extent of Implementation of Corporate Governance Measures along with Goal Setting

Goal Setting Measures	Board Members n = 140		Committees n = 140		Individual Members n = 140		Item Average	
	μ	Scale	μ	Scale	μ	Scale	μ	Scale
Increasing the capitalization of the cooperative	3.74	GE	3.76	GE	3.63	GE	3.71	GE
Increasing the assets or resources of the cooperative	3.50	GE	3.57	GE	3.41	GE	3.49	GE
Declaring dividends for its members	3.54	GE	3.63	GE	3.59	GE	3.59	GE
Increasing the earnings of the cooperative	3.63	GE	3.56	GE	3.43	GE	3.54	GE
Encouraging thrift and savings among their members	3.46	GE	3.39	ME	3.30	ME	3.38	ME
Providing social (i.e., mortuary) services to its members	2.95	ME	2.89	ME	2.96	ME	2.93	ME
Increasing the volume of business of the cooperative	3.30	ME	3.36	ME	3.23	ME	3.30	ME
Extending credit services to its members	3.98	GE	3.81	GE	3.71	GE	3.83	GE
Factor Average	3.51	GE	3.50	GE	3.41	GE	3.47	GE

1.00 – 1.80 Never (N)
1.81 – 2.60 Less Extent (LE)
2.61 – 3.40 Moderate Extent (ME)
3.41 – 4.20 Great Extent (GE)
4.21 – 5.00 Very Great Extent (VGE)

The extent of implementation of corporate governance measures along with organizational strategies is shown in Table 2.

Table 2

The Extent of Implementation of Corporate Governance Measures along with Organizational Strategies

Organizational Strategies	Board Members n = 140		Committees n = 140		Individual Members n = 140		Item Average	
	μ	Scale	μ	Scale	μ	Scale	μ	Scale
Establishing appropriate management set-up to include the manager, cashier, bookkeeper, etc.	3.76	GE	3.64	GE	3.60	GE	3.67	GE
Providing trainings annually to directors, committees, and employees	3.05	ME	3.08	ME	3.11	ME	3.08	ME
Allocating annually the statutory reserves for stability of the cooperative	3.50	GE	3.41	GE	3.29	ME	3.40	ME
Adopting innovations in implementing cooperative services	3.31	ME	3.33	ME	3.27	ME	3.30	ME
Implementing an annual or continuous capital build-up scheme	3.57	GE	3.46	GE	3.56	GE	3.53	GE
Adopting the latest technology (i.e., use of computers, etc.) in the processing of transactions	2.98	ME	3.18	ME	3.06	ME	3.07	ME
Implementing continuous membership expansion	3.16	ME	3.26	ME	3.17	ME	3.20	ME
Factor Average	3.33	ME	3.34	ME	3.29	ME	3.32	ME

1.00 – 1.80 Never (N) 1.81 – 2.60 Less Extent (LE)
2.61 – 3.40 Moderate Extent (ME) 3.41 – 4.20 Great Extent (GE)
4.21 – 5.00 Very Great Extent (VGE)

The extent of implementation of corporate governance measures along with administrative policies and procedures is shown in Table 3.

Table 3

The Extent of Implementation of Corporate Governance Measures along with Administrative Policies and Procedures

Organizational Strategies	Board Members n = 140		Committees n = 140		Individual Members n = 140		Item Average	
	μ	Scale	μ	Scale	μ	Scale	μ	Scale
Establishing appropriate management set-up to include the manager, cashier, bookkeeper, etc.	3.76	GE	3.64	GE	3.60	GE	3.67	GE

Providing trainings annually to directors, committees, and employees	3.05	ME	3.08	ME	3.11	ME	3.08	ME
Allocating annually the statutory reserves for stability of the cooperative	3.50	GE	3.41	GE	3.29	ME	3.40	ME
Adopting innovations in implementing cooperative services	3.31	ME	3.33	ME	3.27	ME	3.30	ME
Implementing an annual or continuous capital build-up scheme	3.57	GE	3.46	GE	3.56	GE	3.53	GE
Adopting the latest technology (i.e., use of computers, etc.) in the processing of transactions	2.98	ME	3.18	ME	3.06	ME	3.07	ME
Implementing continuous membership expansion	3.16	ME	3.26	ME	3.17	ME	3.20	ME
Factor Average	3.33	ME	3.34	ME	3.29	ME	3.32	ME

1.00 – 1.80 Never (N)
1.81 – 2.60 Less Extent (LE)
2.61 – 3.40 Moderate Extent (ME)
3.41 – 4.20 Great Extent (GE)
4.21 – 5.00 Very Great Extent (VGE)

The extent of implementation of corporate governance measures along with feedback systems is shown in Table 4.

Table 4

The Extent of Implementation of Corporate Governance Measures along with Feedback Systems

Feedback Systems	Board Members n = 140		Committees n = 140		Individual Members n = 140		Item Average	
	μ	Scale	μ	Scale	μ	Scale	μ	Scale
Soliciting feedback through conferences with subordinates	3.10	ME	3.26	ME	2.96	ME	3.11	ME
Soliciting feedback from subordinates by making them accomplish questionnaires	2.61	ME	2.84	ME	2.75	ME	2.73	ME
Inviting subordinates to send feedback about the cooperative's practices	2.79	ME	2.91	ME	2.71	ME	2.80	ME
Soliciting the subordinate's feedback about their evaluation results	2.80	ME	2.93	ME	2.76	ME	2.83	ME
Soliciting feedback from the members about the cooperative's services	3.09	ME	3.03	ME	2.84	ME	2.99	ME
Using the employees' feedback to improve supervisory practices	3.14	ME	3.13	ME	2.98	ME	3.08	ME

Using the members' feedback to improve the cooperative's services	3.20	ME	3.13	ME	2.95	ME	3.09	ME
Supporting and encouraging the continual flow of feedback from employees and members	3.15	ME	3.10	ME	3.01	ME	3.09	ME
Factor Average	2.98	ME	3.04	ME	2.87	ME	2.96	ME

1.00 – 1.80 Never (N) 1.81 – 2.60 Less Extent (LE)
2.61 – 3.40 Moderate Extent (ME) 3.41 – 4.20 Great Extent (GE)
4.21 – 5.00 Very Great Extent (VGE)

The summary of the extent of implementation of corporate governance measures is shown in Table 5.

Table 5

The Summary of the Extent of Implementation of Corporate Governance Measures

Governance Dimensions	Board Members n = 140		Committees n = 140		Individual Members n = 140		Item Average	
	μ	Scale	μ	Scale	μ	Scale	μ	Scale
Goal Setting	3.51	GE	3.50	GE	3.41	GE	3.47	GE
Organizational Strategies	3.33	ME	3.34	ME	3.29	ME	3.32	ME
Administrative Policies and Procedures	3.15	ME	3.14	ME	3.02	ME	3.10	ME
Feedback Systems	2.98	ME	3.04	ME	2.87	ME	2.96	ME
General Average	3.24	ME	3.25	ME	3.15	ME	3.21	ME

1.00 – 1.80 Never (N) 1.81 – 2.60 Less Extent (LE)
2.61 – 3.40 Moderate Extent (ME) 3.41 – 4.20 Great Extent (GE)
4.21 – 5.00 Very Great Extent (VGE)

The extent of implementation of risk management systems along with risk control is shown in Table 6.

Table 6

The Extent of Implementation of Risk Management Systems along with Risk Control

Indicators	Board Members n = 140		Committees n = 140		Individual Members n = 140		Item Average	
	μ	Scale	μ	Scale	μ	Scale	μ	Scale
Considering the borrower's capacity to pay in extending credit	3.88	GE	3.82	GE	3.69	GE	3.80	GE
Considering the member's capital investment as a basis for the amount of loan	3.68	GE	3.61	GE	3.60	GE	3.63	GE
Hiring a collector to monitor, follow-up, and make actual collections	2.79	ME	2.76	ME	2.78	ME	2.78	ME
Automatically deviating from an original plan (Plan A) by adopting an alternative plan (Plan B) to cope with economic crisis	3.10	ME	3.07	ME	3.16	ME	3.11	ME
Fixing a maximum loanable amount to a single borrower	3.62	GE	3.56	GE	3.42	GE	3.53	GE
Instituting legal action for delinquent and non-paying borrowers	2.84	ME	3.01	ME	3.13	ME	2.99	ME
Accelerating the collection of receivables to avoid financial crisis	3.38	ME	3.38	ME	3.32	ME	3.36	ME
Enforcing stricter measures for screening loan applicants	3.41	GE	3.47	GE	3.37	ME	3.42	GE
Factor Average	3.34	ME	3.34	ME	3.31	ME	3.33	ME

1.00 – 1.80 Never (N)
1.81 – 2.60 Less Extent (LE)
2.61 – 3.40 Moderate Extent (ME)
3.41 – 4.20 Great Extent (GE)
4.21 – 5.00 Very Great Extent (VGE)

The extent of implementation of risk management systems along with loss financing is shown in Table 7.

Table 7

The Extent of Implementation of Risk Management Systems along with Loss Financing

Indicators	Board Members n = 140		Committees n = 140		Individual Members n = 140		Item Average	
	μ	Scale	μ	Scale	μ	Scale	μ	Scale
Establishing a Retirement Fund (RF) for employees of the cooperative	2.33	LE	2.46	LE	2.58	LE	2.46	LE

Allocating annually an Optional Fund (OF) of the cooperative	2.90	ME	2.83	ME	2.87	ME	2.87	ME
Allocating annually for Education and Training Fund (ETF) to finance training expenses of the cooperative	3.27	ME	3.15	ME	3.26	ME	3.23	ME
Allocating annually for Reserve Fund (RF) to absorb possible losses on operations	3.42	GE	3.29	ME	3.23	ME	3.31	ME
Providing an Allowance for Bad Debts to absorb possible losses on loans	2.92	ME	2.83	ME	2.84	ME	2.86	ME
Requiring a bond of accountable (i.e., cashier, treasurer) officers of the cooperative	3.33	ME	2.96	ME	3.26	ME	3.18	ME
Covering the borrowers by a loan insurance protection in case of death	2.81	ME	2.81	ME	2.79	ME	2.80	ME
Covering facilities and equipment by an insurance	2.65	ME	2.60	ME	2.65	ME	2.63	ME
Factor Average	2.95	ME	2.87	ME	2.93	ME	2.92	ME

1.00 – 1.80 Never (N)
1.81 – 2.60 Less Extent (LE)
2.61 – 3.40 Moderate Extent (ME)
3.41 – 4.20 Great Extent (GE)
4.21 – 5.00 Very Great Extent (VGE)

The extent of implementation of risk management systems along with internal risk reduction is shown in Table 8.

Table 8

The Extent of Implementation of Risk Management Systems along with Internal Risk Reduction

Strategies	Board Members n = 140		Committees n = 140		Individual Members n = 140		Item Average	
	μ	Scale	μ	Scale	μ	Scale	μ	Scale
Submitting the cooperative to a yearly audit by the Audit and Inventory Committee (AIC)	3.81	GE	3.58	GE	3.62	GE	3.67	GE
Analyzing the financial statements and other monthly data to detect potential problems	3.74	GE	3.53	GE	3.57	GE	3.61	GE
Observing proper internal (i.e., fraud) control systems in the cooperative	3.61	GE	3.49	GE	3.50	GE	3.53	GE

Providing the employees with appropriate insurance (i.e., SSS, etc.) coverage as required by law	2.70	ME	2.61	ME	2.65	ME	2.65	ME
Giving salaries to employees with the minimum as required by law	2.86	ME	2.82	ME	2.98	ME	2.89	ME
Mentoring selected employees to fill up future vacancies in technical positions	2.77	ME	2.73	ME	2.90	ME	2.80	ME
Monitoring conflict of business interest within the board, management and staff	3.17	ME	3.06	ME	3.15	ME	3.13	ME
Engaging in diversified (i.e., multi-purpose) cooperative services and activities	3.15	ME	3.10	ME	3.09	ME	3.11	ME
Factor Average	3.23	ME	3.11	ME	3.18	ME	3.17	ME

1.00 – 1.80 Never (N)
1.81 – 2.60 Less Extent (LE)
2.61 – 3.40 Moderate Extent (ME)
3.41 – 4.20 Great Extent (GE)
4.21 – 5.00 Very Great Extent (VGE)

The summary of the extent of implementation of risk management systems is shown in Table 9.

Table 9

The Summary of the Extent of Implementation of Risk Management Systems

Risk Management Systems	Board Members n = 140		Committees n = 140		Individual Members n = 140		Item Average	
	μ	Scale	μ	Scale	μ	Scale	μ	Scale
Risk Control Measures	3.34	ME	3.34	ME	3.31	ME	3.33	ME
Loss Financing	2.95	ME	2.87	ME	2.93	ME	2.92	ME
Internal Risk Reduction	3.23	ME	3.11	ME	3.18	ME	3.17	ME
General Average	3.17	ME	3.11	ME	3.14	ME	3.14	ME

1.00 – 1.80 Never (N)
1.81 – 2.60 Less Extent (LE)
2.61 – 3.40 Moderate Extent (ME)
3.41 – 4.20 Great Extent (GE)
4.21 – 5.00 Very Great Extent (VGE)

The extent of implementation of operations control practices along with statement of success indicators is shown in Table 10.

Table 10

The Extent of Implementation of Operations Control Practices along with Statement of Success Indicators

Control Systems	Board Members n = 140		Committees n = 140		Individual Members n = 140		Item Average	
	μ	Scale	μ	Scale	μ	Scale	μ	Scale
Requiring an increase in the profits of the cooperative by ten to fifteen percent as compared to the previous year	3.26	ME	3.22	ME	3.22	ME	3.23	ME
Requiring an increase in assets by more than twenty five percent as compared to the previous year	3.04	ME	3.01	ME	3.03	ME	3.03	ME
Targeting a reserve fund of more than ten percent of net surplus	3.14	ME	3.18	ME	3.18	ME	3.17	ME
Requiring an increase in the number of members and/or clientele by more than twenty percent as compared to the previous year	2.87	ME	2.95	ME	3.08	ME	2.97	ME
Maintaining a past due rate of not more than twenty five percent	2.94	ME	2.96	ME	2.95	ME	2.95	ME
Targeting an increase in capital to at least twenty five percent as compared to the previous year	3.01	ME	3.08	ME	3.00	ME	3.03	ME
Requiring a decrease in the operating cost of the cooperative by five percent as compared to the previous year	3.05	ME	3.02	ME	2.92	ME	3.00	ME
Maintaining a collection rate of at least seventy five percent of the amounts due and collectible	3.17	ME	3.13	ME	3.12	ME	3.14	ME
Factor Average	3.06	ME	3.07	ME	3.06	ME	3.06	ME

1.00 – 1.80 Never (N)
1.81 – 2.60 Less Extent (LE)
2.61 – 3.40 Moderate Extent (ME)
3.41 – 4.20 Great Extent (GE)
4.21 – 5.00 Very Great Extent (VGE)

The extent of implementation of operations control practices along with performance monitoring is shown in Table 11.

Table 11

The Extent of Implementation of Operations Control Practices along with Performance Monitoring

Control Practices	Board Members n = 140		Committees n = 140		Individual Members n = 140		Item Average	
	μ	Scale	μ	Scale	μ	Scale	μ	Scale
Submitting the cooperative to performance and fiscal audit by an external auditor (i.e., CPA)	3.55	GE	3.41	GE	3.43	GE	3.46	GE
Conducting a semi-annual performance evaluation of employees	3.01	ME	2.88	ME	3.05	ME	2.98	ME
Monitoring the trend of members' patronage to cooperative services	3.33	ME	3.35	ME	3.22	ME	3.30	ME
Monitoring the amortization payments of member borrowers	3.45	GE	3.38	ME	3.35	ME	3.39	ME
Monitoring compliance of the by-laws, rules, and regulations of the cooperative	3.41	GE	3.43	GE	3.38	ME	3.41	GE
Monitoring submission and compliance of annual reports and audited financial statements to the CDA	3.60	GE	3.45	GE	3.47	GE	3.51	GE
Identifying active and inactive members of the cooperative	3.44	GE	3.42	GE	3.45	GE	3.44	GE
Factor Average	3.40	ME	3.33	ME	3.34	ME	3.36	ME

1.00 – 1.80 Never (N)
1.81 – 2.60 Less Extent (LE)
2.61 – 3.40 Moderate Extent (ME)
3.41 – 4.20 Great Extent (GE)
4.21 – 5.00 Very Great Extent (VGE)

The extent of implementation of operations control practices along with correction of deviation from standards is shown in Table 12.

Table 12

The Extent of Implementation of Operations Control Practices along with Correction of Deviation from Standards

Control Practices	Board Members n = 140		Committees n = 140		Individual Members n = 140		Item Average	
	μ	Scale	μ	Scale	μ	Scale	μ	Scale
Suggesting techniques of collecting the obligations of individual members	3.49	GE	3.34	ME	3.34	ME	3.39	ME
Requesting that all committees regularly perform their functions	3.50	GE	3.43	GE	3.50	GE	3.48	GE
Requiring the members to attend the Pre-Membership Education Seminar on cooperative	3.59	GE	3.36	ME	3.41	GE	3.45	GE
Proposing sanctions for directors and officers who neglect their duties	3.23	ME	3.10	ME	3.13	ME	3.15	ME
Correcting the ways in which records are kept by the cooperative	3.49	GE	3.32	ME	3.26	ME	3.36	ME
Imposing penalties for non-attendance to membership meetings	3.15	ME	2.84	ME	2.92	ME	2.97	ME
Suggesting ways of terminating directors or officers whose pecuniary interests are in conflict with their duties toward the cooperative	3.06	ME	2.97	ME	2.94	ME	2.99	ME
Factor Average	3.36	ME	3.19	ME	3.21	ME	3.25	ME

1.00 – 1.80 Never (N)
1.81 – 2.60 Less Extent (LE)
2.61 – 3.40 Moderate Extent (ME)
3.41 – 4.20 Great Extent (GE)
4.21 – 5.00 Very Great Extent (VGE)

The summary of the extent of implementation of operations control practices is shown in Table 13.

Table 13

The Summary of the Extent of Implementation of Operations Control Practices

Operations Control Practices	Board Members n = 140		Committees n = 140		Individual Members n = 140		Item Average	
	μ	Scale	μ	Scale	μ	Scale	μ	Scale
Statement of Success Indicators	3.06	ME	3.07	ME	3.06	ME	3.06	ME
Performance Monitoring	3.40	ME	3.33	ME	3.34	ME	3.36	ME
Correction of deviation from Standards	3.36	ME	3.19	ME	3.21	ME	3.25	ME
General Average	3.27	ME	3.20	ME	3.20	ME	3.22	ME

1.00 – 1.80 Never (N)
1.81 – 2.60 Less Extent (LE)
2.61 – 3.40 Moderate Extent (ME)
3.41 – 4.20 Great Extent (GE)
4.21 – 5.00 Very Great Extent (VGE)

The correlation between the extent to which corporate governance measures have been implemented and the extent to which risk management have been implemented is shown in Table 14.

Table 14

The Correlation between the Implementation of Corporate Governance Measures and the Implementation of Risk Management Systems

CORPORATE GOVERNANCE			CORRELATES RISK MANAGEMENT SYSTEM					
			Risk Control Measures		Loss Financing		Internal Risk Reduction	
	df	Critical r	Computed r	Interpretation	Computed r	Interpretation	Computed r	Interpretation
Implementation of Goal Setting	6	0.707	0.599	NS	0.562	NS	0.630	NS
Implementation of Organizational Strategies	5	0.754	0.832	S	0.672	NS	0.819	S
Implementation of Administrative Policies and Procedures	6	0.707	0.768	S	0.699	NS	0.751	S
Implementation of Feedback Systems	6	0.707	0.857	S	0.816	S	0.853	S

The correlation between the extent to which corporate governance measures have been implemented and the extent to which operations control practices have been implemented is shown in Table 15.

Table 15

The Correlation between the Implementation of Corporate Governance Measures and the Implementation of Operations Control Practices

CORPORATE GOVERNANCE			CORRELATES OPERATIONS CONTROL PRACTICES					
			Statement of Success Indicators		Performance Monitoring		Deviation from Standards	
	df	Critical r	Computed r	Interpretation	Computed r	Interpretation	Computed r	Interpretation
Implementation of Goal Setting	6	0.707	0.519	NS	0.606	NS	0.863	S
Implementation of Organizational Strategies	5	0.754	0.784	S	0.762	S	0.634	NS
Implementation of Administrative Policies and Procedures	6	0.707	0.744	S	0.012	NS	0.642	NS
Implementation of Feedback Systems	6	0.707	0.692	NS	0.840	S	0.766	S

The following is the development program entitled “Cooperatives for the Revitalization of Economic Endeavor for Development” (CREED).

Section 1 of the development program which is about the improvement of the corporate governance of cooperatives is shown in Table 16.

Table 16

Section 1: Program for the Improvement of the Corporate Governance of Cooperatives

Project	Implementation Strategies	Time Frame	Persons Involved
I. Improvement of Goals	I. Goals A. Encouragement of Thrift and Savings among Members 1. Holding seminars on thrift and savings 2. Giving incentives to members who have the highest amount of savings with their cooperative and /or with the Zamboanga del Norte Cooperative Bank 3. Encouraging the members to increase their capital to the cooperative B. Providing social services to the members of the cooperatives 1. Assigning a group of members to study the following measures to render social services to the members: a. Mortuary services b. Scholarship grants to children of outstanding members of cooperatives c. Financial aid (specific amount) for members with serious ailments	I. Year 1 – Year 5	I. Board of Directors/ Officers
Project	Implementation Strategies	Time Frame	Persons Involved
	2. Delegating to a committee to research on various social services intended for the members C. Increasing the volume of business of the cooperatives 1. Engaging in a massive campaign for increasing the		

	membership of cooperatives 2. Increasing the capital structure of the cooperatives 3. Branching out and/or opening new business segments		
II. Restructuring of Organizational Strategies	II. Strategies A. Annual training of directors, committees, and employees and conduct: 1. Seminars on the Cooperative Code of the Philippines (Year 1) 2. Seminars on the functions of directors, officers, committees and staff(Year 1) 3. Seminars on customer relations for employees (Year 1) 4. Seminars on credit management for credit committees (Year 1) 5. Seminars on work values for employees (Year 1) 6. Other cooperative and business seminars.	II. Year 1 – Year 5	II. Education and Training Committee
Project	Implementation Strategies	Time Frame	Persons Involved
	B. Annual Allocation of Statutory Reserves: 1. Provision of Optional Fund (OF) by not more than 10% of Net Surplus 2. Provision of Reserve Fund (RF) of at least 10% of Net Surplus 3. Provision of Education and Training Fund (ETF) of not more than 10% of Net Surplus C. Implementing Innovations on Services: 1. Updating the policies on cooperative services		

	2. Sending managers on strategic management seminars 3. Designing strategies for competitiveness D. Adopting the Latest Technology in the Processing of Transactions 1. Acquiring, in the initial year, computer hardware and software for the various transactions of the cooperatives. 2. Setting up a management information system in the cooperatives. 3. Upgrading the software from time to time. 4. Hiring personnel who are well-versed in the use of computers.		Board of Directors/ Officers
Project	Implementation Strategies	Time Frame	Persons Involved
III. Improvement of Administrative Policies and Procedures	E. Continuous Membership Expansion 1. Using the strategy of "Each One Recruits Three" and "Each of the Three Recruits Three" for the expansion of membership 2. Conducting a Pre-Membership Coop Seminar free of charge. 3. Massive information dissemination on the concepts of cooperativism III. Measures A. Manual Writing 1. Drafting of the following policies and guidelines: a. duties and responsibilities of employees b. recruitment and selection of personnel c. retention of employees	III. Year 1	Board of Directors/ Committees/ Officers III. Board of Directors/ Committees/ Members

	d. promotion of employees e. termination of personnel f. financial reward system g. retirement program of employees h. sanctions for policy violations i. use of management information system		
Project	Implementation Strategies	Time Frame	Persons Involved
IV. Enhance-ment of Feedback Systems	2. Conducting brainstorming sessions among the Board of Directors, committees, and members for possible revision and finalization. 3. Approving the employees' manual 4. Publishing the employees' manual B. Conflict Management 1. Holding brainstorming sessions on the techniques of conflict management 2. Revising and finalizing the policies and guidelines on management of conflict within the cooperative 3. Creation of arbitration committee to settle disputes within the cooperative IV. Feedback Practices A. Group and Individual Meetings and Conferences 1. Conferences will be conducted in groups to give feedback to improve supervisory practices 2. One-on-one conference with employees to clarify issues about cooperative services	IV. Year 1 – Year 5	IV. Special Committees/ Officers
	Implementation		Persons
Project	Strategies	Time Frame	Involved

	B. Survey Techniques 1. Employees are made to accomplish questionnaires that facilitate their giving of feedback to their superiors. 2. A survey is made to determine the members' feedback about their respective cooperative services. 3. A survey is made to determine the employees' feedback on the ways to improve supervisory practices. 4. A survey is made to determine the subordinates' feedback about their evaluation results C. Continuous Feedback System: 1. Encouraging employees during conferences and meetings to send feedback about cooperatives practices 2. Supporting and encouraging the continual flow of feedback from employees and members		
Project	Implementation Strategies	Time Frame	Persons Involved
	D. Post Evaluation Conference 1. After each evaluation, the results and suggestions are discussed with the employees. 2. The employees are encouraged to give feedback about the manner of evaluation.		

Section 2 of the development program which is about the revitalization of risk management is shown in Table 17.

Table 17

Section 2: Program for Revitalization of Risk Management

Project	Implementation Strategies	Time Frame	Persons Involved
I. Improvement of Risk Control Strategies	I. Specific Strategies A. Collection Management 1. Deliberating on whether to hire a collector or assigning an employee or member to monitor, follow up, and make actual collections. 2. Engaging a lawyer on a case-to-case arrange-ment to institute legal action against delinquent and non-paying borrowers. 3. Accelerating the collection of receivables to avoid financial crisis B. Contingency Planning 1. Encouraging and promoting the formulation of alternative plans instead of relying only on one plan for the whole year. 2. Implementing the contingency plan when the original plan fails.	I. Year 1 – Year 5	I. Board of Directors/ Officers
II. Loss Financing	II. Strategies A. Fund Allocation 1. Conducting meetings with the Board of Directors to deliberate on the formulation of resolutions endorsing the following measures:	II. Regularly to be taken from Year 1 – Year 5	II. Board of Directors/ Officers
Project	Implementation Strategies	Time Frame	Persons Involved
	a. Reserving a Retire-ment Fund for the employees of the cooperative in consonance with a retirement plan which is		

	subject to approval by the Board of Directors. b. Allocating an Optional Fund (OF) for any development projects and other purposes c. Allocating an adequate annual Education and Training Fund (ETF) for the enhancement of the management skills of officers and directors and the orientation of prospective members d. Allocating an adequate Reserve Fund (RF) to be used in case of losses. 2. Providing a fund (i.e., Allowance for Bad Debts) to cover bad debts on operations. 3. Providing a fidelity bond for accountable officers handling funds in the cooperative. 4. Drawing insurance on borrowers for protection against non-payment of loans in case of the borrowers' death		
Project	Implementation Strategies	Time Frame	Persons Involved
	5. Covering facilities, equipment, and buildings by insurance		
III. Internal Risk Reduction	III. Measures A. Benefits and Salaries 1. Providing the employees with SSS coverage. 2. Giving employees salaries in accordance with the Minimum Wage Law B. Human Resource Enhancement 1. Mentoring selected employees to fill up future vacancies in technical positions	III. Year 1-Year 5, as the need arises	III. Board of Directors/ Officers

	2. Monitoring conflict of business interest within the Board, management, and staff to protect the business of the cooperative C. Enhancement of Operations 1. Conducting feasibility studies on business prospects for the cooperative 2. Diversifying the services and entrepreneurial activities of the cooperative		

Section 3 of the development program which is about redirection of operations control is shown in Table 18.

Table 18

Section 3: Program for Redirection of Operations Control

Project	Implementation Strategies	Time Frame	Persons Involved
I. Setting Success Indicators	I. Success Indicators A. Increase in Funds Emphasis will be placed on: 1. Obtaining an increase in the profits of the cooperative by ten to fifteen percent as compared to the previous year 2. Obtaining an increase in assets by more than 25% as compared to the previous year 3. Aiming for an increase in capital by at least 25% as compared to the previous year. 4. Maintaining a collection rate of at least seventy five percent of the amounts due and collectible B. Reserve Fund Having a reserve fund of more than ten percent of	I. Year 1 – Year 5	Board of Directors/ Officers

	the net surplus C. Membership Increase Working for an increase in the number of members and clientele by more than 20% as compared to the previous year D. Control of Delinquency Maintaining a past due rate of not more than twenty-five percent		
Project	Implementation Strategies	Time Frame	Persons Involved
II. Performance Monitoring III. Correcting Deviations from Standards	E. Savings on Operation Requiring a decrease in the operating costs of the cooperative by five percent as compared to the previous year II. Specific Measures A. Employee Evaluation 1. Formulating and validating an evaluation instrument for employees 2. Conducting an evaluation of the employees' performance on a semi-annual schedule B. Evaluation of Patronage 1. Formulating and validating an instrument for studying the trend on the patronage of cooperative members 2. Conducting trend studies of loan amortization payments of cooperative borrowers III. Maintenance of Standards A. Strategies: 1. Designing, formulating and suggesting techniques on loan collections for implementation by management 2. Correcting the ways in which records are kept by the cooperative	II. Year 1 – Year 5 III. Year 1	II. Board of Directors/ Officers III. Board of Directors
	Implementation		Persons
Project	Strategies	Time Frame	Involved

	B. System of Sanctions 1. Conducting meetings for deliberating on the sanctions to be administered on directors and officers who neglect their duties. 2. Imposing the specific sanctions on erring directors and officers 3. Imposing penalties on members who fail to attend meetings C. Avoidance of Conflict of Interest 1. Conducting meetings to deliberate on the detection of directors or officers whose business interests are in conflict with their performance of duties toward the cooperative 2. Terminating directors and officers with pecuniary interests contrary to their duties toward the cooperative		

DISCUSSION

Table 1 contains data regarding the extent to which the member cooperatives implemented goal-setting measures for the organization and its members.

As revealed by the factor average of 3.47 based on the group averages of 3.51 from the Board of Directors, 3.50 from the committees, and 3.41 from the individual members, the shareholder cooperatives implemented to a Great Extent goal setting measures for the organization and its members.

Specifically, measures for increasing the capitalization of the cooperative were implemented to a Great Extent, as revealed by the item average of 3.71 based on the weighted mean of 3.74 from the Board Members, 3.76 from the committees, and 3.63 from the individual members. Measures for increasing the assets or resources of the cooperative were implemented to a Great Extent, as shown by the item average of 3.49 based on the weighted mean of 3.50 from the Board Members, 3.57 from the committees, and 3.41 from the individual members. Measures for declaring dividends for its members were implemented to a Great Extent as revealed by the item average of 3.59 based on

the weighted mean of 3.54 from the Board Members, 3.63 from the committees, and 3.59 from the individual members. Measures for increasing the earnings of the cooperatives were implemented in the shareholder cooperatives, as revealed by the item average of
3.54 based on the weighted mean of 3.63 from the Board of Directors, 3.56 from the committees, and 3.43 from the individual members.

These findings revealed that in the majority of cases, the members of the cooperative bank augmented their capital to make their cooperatives more viable and profitable.

Owing to the need to accommodate the financial requirements of their individual members, the shareholder cooperatives considered it necessary to increase capitalization to best serve their members. In fact, capital adequacy was one of the major factors that would lead to the success of all business organizations including cooperatives. That's why the Bangko Sentral ng Pilipinas is considered as the number one criterion in rating all banks in the country.

Also, in the majority of cases, the cooperative shareholders increased their resources to be able to extend services to their members and clients. The assets of the cooperatives were increased as a result of continuous capital build-up, increase in profits, and borrowings from banks and other financial institutions. A continuous and substantial increase in assets or resources could be an indication of the cooperatives' growth and development.

In the majority of cases, dividends were declared by the shareholder cooperatives that benefited the organization and its members. Thus, the shareholders, adhered to the principle that the members should be given dividends comprising of interest on capital and patronage refunds. Such dividends were declared in the form of cash and stocks. Only cash dividends were given to the individual members as an actual return on their investment while stock dividends were added to the members' paid-up capital which resulted to the advantage of the organization.

Similarly, in the majority of cases, the member cooperatives implemented measures for increasing the income of their respective cooperatives. This was the trend because the primary objective of every business establishment was maximum profitability. That an increasing trend in earnings would mean growth and progress. In the case of the member cooperatives, they engaged in various business ventures aside from investing in the cooperative bank for sustainable operations.

As revealed by the item average of 3.38, the cooperative took measures to encourage thrift and savings among their members. The weighted mean of 3.46 from the Board of Directors revealed their perception that this measure was implemented to a Great Extent. The weighted mean of 3.39 from the committees
and 3.30 from the individual members denoted their perception that these measures were implemented to a Moderate Extent.

The Board of Directors viewed the measure of encouraging thrift and savings among members as implemented to a majority of cases which was opposed to that of the committees and individual members.

The Board Members had a different response from that of the two groups because they were concerned with upholding the general principle governing cooperatives, which was the encouragement among members to save money and use it wisely. The Board of Directors, being in charge of formulating policies, and being aware of the goals of

cooperatives, viewed themselves as having attained the major goals of the movement. However, the committees and individual members revealed that there were limitations in the measures implemented by their respective cooperatives. This finding implied that if ever, thrift and savings were encouraged among members, it was only in half of the cases that measures for attaining this goal were implemented.

To a Moderate Extent, measures were implemented for providing social services, such as mortuary assistance to its members, as revealed by the item average of 2.93 based on the weighted mean of 2.95 from the Board of Directors, 2.89 from the committees, and 2.96 from the individual members, and increasing the volume of business of the cooperative, as shown by the item average of 3.30 based on the weighted mean of 3.30 from the Board of Directors, 3.36 from the committees, and 3.23 from the individual members.

From these findings, it could be inferred that in half of the cases, the cooperatives helped their members in the sense that they rendered social services like financial assistance in times of accident and hospitalization and mortuary aid in case of death. Both the cooperatives and the individual members as a whole benefited to a limited extent from the measures implemented by the member cooperatives since, the accumulated mortuary and other funds intended for the purpose can generate additional income though deposit transactions with banks and at the same time can be utilized for assistance to members as the need arises. Another measure considered beneficial, though limited, was the scheme to increase the business activities of cooperatives. This limitation was attributed to the inadequacy of capital by cooperatives to undertake various business activities. The increase in the volume of business was vital to the organization's profitability and sustainability.

As revealed by the item average of 3.83 based on the weighted mean of 3.98 from the Board Members, 3.81 from the committees, and 3.71 from the individual members, measures were implemented to a Great Extent, for extending credit services to the members.

From this finding, it could be inferred that in the majority of cases, the cooperatives facilitated, among their members, the use of cash for deferred payment terms. This arrangement was helpful to them in the sense that it made cash readily available to them. This economic activity was one of the specific goals of cooperatives as embodied under Article 6 of Republic Act 6938. Goals are more likely to elicit support when they are clearly relevant to the major work of the organization and the particular work unit (Bartol and Martin, 1998).

Table 2 contains data regarding the extent to which the shareholder cooperatives implemented various organizational strategies and showed that implementation was made to a Moderate Extent, as revealed by the factor average of 3.32 based on the group average of 3.33 from the Board of Directors, 3.34 from the committees, and 3.29 from the individual members.

Specifically, as revealed by the item average of 3.67 based on the weighted mean of 3.76 from the Board of Directors, 3.64 from the committees, and 3.60 from the individual members, the cooperatives often implemented the strategy of establishing appropriate management set-up to include the manager, cashier, bookkeeper, and other personnel.

This finding revealed that in the majority of cases, the cooperatives implemented measures to promote system in the task of directing the operations of the cooperatives by means of designating specific persons to perform duties and responsibilities in order that the needed services may be rendered by them. The implementation made by the shareholders was in consonance with the provisions of the by-laws of cooperatives and in line with the practices of successful business organizations.

As revealed by the item average of 3.08 based on the weighted mean of 3.05 from the Board of Directors, 3.08 from the committees, and 3.11 from the individual members, the cooperatives provided, to a Moderate Extent, annual training to directors, committees, and employees.

From this finding, it could be inferred that in half of the cases, the cooperatives implemented measures to upgrade the capabilities of the directors, officers, committees, and employees in line with the principle of continuous cooperative education as embodied under the provisions of Republic Act 6938, otherwise known as the Cooperative Code of the Philippines. The training was done annually, however, the different sectors underwent training by turns because of the high expense incurred in the process (Interview with a Director of the Dipolog City SP Employees Multi-Purpose Cooperative.

As revealed by the item average of 3.40, the shareholder cooperatives implemented, to a Moderate Extent, measures for allocating annually for statutory reserves for the stability of the cooperatives. The weighted mean of 3.50 from the Board of Directors and 3.41 from the committees denoted their perceptions that this strategy was implemented to a Great Extent. The weighted mean of 3.29 from the individual members indicated their perception that this strategy was implemented to a Moderate Extent.

These findings resulted in the disparity of the responses of the Board of Directors and the committees on one hand and of the individual members on the other hand concerning the annual allocation of statutory reserves of cooperative shareholders. The Board of Directors and the committees indicated that the allocation of reserves was implemented in the majority of cases. On the contrary, the individual members considered that this course of action was implemented in half of the cases. This was attributed to the differences in their knowledge of the operations of their respective cooperatives. The Board of Directors and the committees were more aware than the members of the allocation of statutory reserves as mandated by the law on cooperatives.

As revealed by the item average of 3.30 based on the weighted mean of 3.31 from the Board of Directors, 3.33 from the committees, and 3.27 from the individual members, the shareholder cooperatives implemented, to a Moderate Extent, the measure of adopting innovations in implementing cooperative services.

Based on the above finding, it could be inferred that the new trends and techniques of managing cooperatives were implemented in half of the cases since they adhered mainly on cooperative laws, rules, and regulations of the Cooperative Development Authority. In other words, the cooperatives were more inclined to the implementation of the Cooperative Code, their by-laws, and cooperative principles leaving behind the strategic business practices adopted by successful corporations and other business organizations.

As indicated by the item average of 3.53 based on the weighted mean of 3.57 from the Board of Directors, 3.46 from the committees, and 3.56 from the individual

members,

the shareholder cooperatives implemented to a Great Extent an annual or continuous capital build-up scheme.

Implied by this finding was the fact that in the majority of cases, the shareholder cooperatives used various strategies in augmenting the capitalization of their respective cooperatives. This was done through continuous Capital Build-up Program like the implementation of cooperatives raffle promo, capital retention on loans, and other schemes for the growth and development of the enterprise.

To a Moderate Extent, the cooperatives adopted the latest technology such as the use of computers in the processing of transactions as indicated by the item average of
3.07 based on the weighted mean of 2.98 from the Board of Directors, 3.18 from the committees, and 3.06 from the individual members, and implemented continuous membership expansion, as shown by the item average of 3.20 based on the weighted mean of 3.16 from the Board of Directors, 3.26 from the committees, and 3.17 from the individual members.

These findings revealed that in half of the cases, the cooperatives made use of modern technology for their business operations. However, as the cooperatives were still in the growth stage, they could not afford to use state-of-the-art equipment. Information and communication technologies play a significant role in enhancing organizational effectiveness by offering specific capabilities that enhance coordination, minimize information disparities, and boost productivity, as highlighted by Chattopadhyay (2013).

Table 3 contains data regarding the extent to which the shareholder cooperatives implemented specific administrative policies and procedures.

As indicated by the factor average of 3.10 based on the group average of 3.15 from the Board of Directors, 3.14 from the committees, and 3.02 from the individual members, administrative policies were implemented to a Moderate Extent.
To a Moderate Extent, the duties and responsibilities of employees were defined in a manual, as revealed by the item average of 3.32 based on the weighted mean of 3.40 from the Board of Directors, 3.35 from the committees, and 3.22 from the individual members. The policies on the recruitment and selection of cooperative employees were clearly defined to a Moderate Extent, as shown by the item average of 3.30 based on the weighted mean of 3.36 from the Board of Directors, 3.35 from the committees, and 3.19 from the individual members. The policies on the retention of cooperative employees were implemented to a Moderate Extent, as indicated by the item average of 3.23 based on the item average of 3.33 from the Board of Directors, 3.27 from the committees, and
3.10 from the individual members. The policies on the promotion of cooperative employees were implemented to a Moderate Extent, as indicated by the item average of
3.05 based on the weighted mean of 3.11 from the Board of Directors, 3.04 from the committees, and 3.00 from the individual members. The policies on the termination of the cooperative employees' services were implemented to a Moderate Extent, as disclosed by the item average of 2.99 based on the weighted mean of 3.02 from the Board of Directors, and 3.02 from the committees, and 2.93 from the individual members. The policies on the financial reward systems of the cooperatives were implemented to a Moderate Extent, as shown by the item average of 2.97 based on the weighted mean of

3.03 from the Board of Directors, 2.98 from the committees, and 2.89 from the members, and the policies on the retirement of cooperative employees were implemented to a

Moderate Extent, as shown by the item average of 2.83 based on the weighted mean of 2.88 from the Board of Directors, 2.90 from the committees, and 2.71 from the individual members.

From these findings, it could be inferred that the implementation of administrative policies and procedures about staffing patterns and the definition of duties and responsibilities, recruitment and selection of employees, retention, promotion, termination, reward systems, and retirement schemes were limited in the shareholder cooperatives under study. While it was true that they implemented some of the measures in half of the cases, however, there were no written guidelines and policies for outright reference purposes according to the officers of multi-purpose cooperatives in Dipolog City. The purpose of written policies and guidelines was to guide the management in running the business operations of the cooperative especially on the aspect of human resource management.

On the aspect of dealing with policy violations of cooperative employees, it was implemented to a Moderate Extent as revealed by the item average of 3.04 based on the weighted mean of 3.01 from the Board of Directors, 3.11 from the committees, and 3.01 from the individual members. Measures for enforcing strictly the policies for the use of management information systems were implemented to a Moderate Extent, as revealed by the item average of 3.13 based on the weighted mean of 3.11 from the Board of Directors, 3.21 from the committees, and 3.06 from the individual members; and measures for managing conflict according to the guidelines set by the cooperatives were implemented to a Moderate Extent, as shown by the item average of 3.18 based on the weighted mean of 3.26 from the Board of Directors, 3.18 from the committees, and 3.09 from the individual members.

From these findings, it could be inferred that decision-making on the sanctions to be imposed on policy violations could not be fully facilitated because the guidelines concerning this procedure were not clear. Administrative policies and procedures are also a part of governance. Policies are predetermined sets of guidelines to establish a definite direction in decision-making. Policies are based on the organization's vision-mission. They are formulated after a thorough analysis of organizational goals and objectives (Mondy, Sharplin, and Flippo, 1998).

Furthermore, there were no references from past actions about policy violations of employees. Regarding the use of management information systems, the policies were implemented in half of the cases. Owing to a lack of funds for the improvement of their systems, the cooperatives could not make a full implementation of their management information systems. Efforts were exerted to improve this aspect of the operation of various cooperatives, but other priorities had to be taken into consideration before its implementation.

Procedures in the management of conflict were implemented in half of the cases. However, this finding did not mean that the cooperatives ignored the incidence of conflict. The need to manage conflict was not much because according to the members of multi- purpose cooperatives in Dipolog City, the incidence of conflict was not high (interview).

Table 4 contains data on the implementation of feedback systems among the member cooperatives of the Zamboanga del Norte Cooperative Bank.

As indicated by the factor average of 2.96 based on the group average of 2.98 from the Board Members, 3.04 from the committees, and 2.87 from the individual members, feedback systems were implemented to a Moderate Extent among the member cooperatives.

Specifically, implemented to a Moderate Extent were the measures of soliciting feedback through conferences with subordinates, as indicated by the item average of
3.11 based on the weighted mean of 3.10 from the Board Members, 3.26 from the committees, and 2.96 from the individual members; soliciting feedback from subordinates by making them accomplish questionnaires, as indicated by the item average of 2.73 based on the weighted mean of 2.61 from the Board Members, 2.84 from the committees, and 2.75 from the individual members; inviting subordinates to send feedback about the cooperative's practices, as shown by the item average of 2.80 based on the weighted mean of 2.79 from the Board Members, 2.91 from the committees, and 2.71 from the individual members; and soliciting the subordinates' feedback about their evaluation results, as indicated by the item average of 2.83 based on the weighted mean of 2.80 from the Board Members, 2.93 from the committees, and 2.76 from the individual members.

These findings revealed that in half of the cases, comments on the systems and procedures of governance used in the cooperatives were solicited by the officers. These comments were obtained through conferences with their subordinates, which were called to a limited extent. Another way of soliciting feedback from the subordinates was by means of making them write down their comments about the system of governance and the ways in which the operations of the cooperatives were facilitated by the measures used by the officers. For this purpose, they administered questionnaires, but only to a limited extent. Regarding the practices used by the cooperatives, there were instances when the subordinates were made to send feedback, but only to a limited extent. After the regular evaluation of the employees' performance, they were invited to give their comments about the evaluation procedures and results. This practice was, however, done in half of the cases.

Also implemented to a Moderate Extent, were the measures of soliciting feedback from the members about the cooperative's services, as indicated by the item average of
2.99 based on the weighted mean of 3.09 from the Board Members, 3.03 from the committees, and 2.84 from the individual members; using the employees' feedback to improve supervisory practices, as indicated by the item average of 3.08 based on the weighted mean of 3.14 from the Board Members, 3.13 from the committees, and 2.98 from the individual members; using the members' feedback to improve the cooperative's services, as revealed by the item average of 3.09 based on the weighted mean of 3.20 from the Board Members, 3.13 from the committees, and 2.95 from the individual members; and supporting and encouraging the continual flow of feedback from employees and members, as revealed by the item average of 3.09 based on the weighted mean of 3.15 from the Board Members, 3.10 from the committees, and 3.01 from the individual members.

From these findings, it could be inferred that in half of the cases, feedback was solicited regarding various practices of the cooperative. The officers solicited feedback from the members regarding their views of the services of their respective cooperatives because of their desire for improvement. In half of the cases, they used the employees'

feedback as the basis for improving their supervisory practices as well as the services. Furthermore, they supported the continuity and consistency of communication within their respective cooperatives. Still, as a whole, there was a need to improve the flow of feedback within the cooperatives. This is consistent with the results of the study by Lin,
R. and Sun, B. (2018) which suggest that the enterprise should pay attention to cultivating trust among the members of the organization and maintain it, encouraging support staff feedback behavior.

Table 5 presents the summarized data on the corporate governance of member cooperatives of the Zamboanga del Norte Cooperative Bank.

As shown by the general average of 3.21 based on the group general average of 3.24 from the Board Members, 3.25 from the committees, and 3.15 from the individual members, measures for corporate governance were taken to a Moderate Extent. Specifically, among the five dimensions of governance, there was one dimension in which measures were taken to a Great Extent.

As indicated by the factor average of 3.47 based on the group average of 3.51 from the Board Members, 3.50 from the committees, and 3.41 from the individual members, goal-setting measures were implemented in the cooperatives to a Great Extent. As evaluated by the Board Members, committees, and individual members, the measures that were implemented to a Great Extent consisted of increasing the capitalization of the cooperative, increasing the assets or resources of the cooperative, declaring dividends for its members, and increasing the earnings of the cooperative. Evaluated by the Board Members as implemented to a Great Extent and by the committees and the individual members as implemented to a Moderate Extent was the measure of encouraging thrift and savings among the members.

Evaluated by the three groups as implemented to a Moderate Extent were the measures of providing social services (such as mortuary aid) to its members and increasing the volume of business of the cooperative. Implemented to a Great Extent was the measure of extending credit to the members of the cooperative according to the evaluation of the Board Members, committees, and individual members.

As indicated by the factor average of 3.32 based on the group average of 3.33 from the Board Members, 3.34 from the committees, and 3.29 from the individual members, the cooperatives implemented various organizational strategies to a Moderate Extent.

The three groups of respondents viewed as implemented to a Great Extent the establishment of appropriate management set-up to include the manager, cashier, and bookkeeper and provided, to a Moderate Extent, annual training to directors, committees, and employees. Viewed by the Board of Directors and committees as implemented to a Great Extent and by the individual members as implemented to a Moderate Extent was the measure of allocating annually the statutory reserves for the stability of the cooperative. Viewed by the three groups as implemented to a Moderate Extent was the measure of adopting innovations in implementing cooperative services, and viewed as implemented to a Great Extent was the measure of implementing an annual or continuous capital build-up scheme. To a Moderate Extent, as viewed by the three groups, the measures of adopting the latest technology in the processing of transactions and the scheme of continuous membership expansion were implemented.

Administrative policies and procedures were implemented to a Moderate Extent, as disclosed by the factor average of 3.10 based on the group average of 3.15 from the Board Members, 3.14 from the committees, and 3.02 from the individual members. Viewed by the three groups as implemented to a Moderate Extent were defining clearly the duties and responsibilities of employees in a manual, defining clearly the policies on the recruitment and selection of cooperative employees, specifying the policies on the retention of cooperative employees, stating clearly the policies about the promotion of cooperative employees, and stating clearly the policies on the termination of the cooperative employees' services. Also implemented to a Moderate Extent, as viewed by the three groups of respondents, were the measures of defining clearly the policies on the financial reward systems of the cooperative, specifying the policies on the retirement of cooperative employees, dealing firmly with policy violations, enforcing strictly the policies for the use of management information systems, and managing conflict according to the guidelines set by the cooperative.

As disclosed by the factor average of 2.96 based on the weighted mean of 3.15 from the Board Members, 3.04 from the committees, and 2.87 from the individual members, feedback systems in the cooperatives were implemented to a Moderate Extent. Some of these measures included soliciting feedback through conferences with subordinates, soliciting feedback from subordinates by making them accomplish questionnaires, inviting subordinates to send feedback about the cooperative's practices, and soliciting the subordinates' feedback about their evaluation results. Also implemented to a Moderate Extent were the measures of soliciting feedback from the members about the cooperative's services, using the employees' feedback to improve supervisory practices, using the members' feedback to improve the cooperative's services, and supporting and encouraging the continual flow of feedback from employees and members.

Table 6 presents data on the extent to which the member cooperatives of the Zamboanga del Norte Cooperative Bank implemented risk control measures.

As disclosed by the factor average of 3.33 based on the group average of 3.34 from the Board Members, 3.34 from the committees, and 3.31 from the individual members, risk management measures were implemented to a Moderate Extent in the cooperatives which were members of the Zamboanga del Norte Cooperative Bank.

Specifically, some risk control measures were implemented to a Great Extent, but more of these measures were implemented to a Moderate Extent. Implemented to a Great Extent were the measures of considering the borrower's capacity to pay in extending credit, as shown by the item average of 3.80 based on the weighted mean of
3.88 from the Board Members, 3.82 from the committees, and 3.69 from the individual members; and considering the members' capital investment as a basis for the amount of loan, as disclosed by the item average of 3.63 based on the weighted mean of 3.68 from the Board Members, 3.61 from the committees, and 3.60 from the individual members.

These findings showed that generally, in the majority of cases, the cooperatives exercised much care and prudence in extending credit to the members. They conducted a background check of the loan applicants before allowing them to borrow money from the cooperatives. Furthermore, before approving the borrowers'

loan applications, they

had to determine how much was their capital investment before they could be made to borrow money from the cooperative. The purpose was to match the loan amount with the member's capacity to repay the loan.

To a Moderate Extent, measures of risk management were taken by the member cooperatives. These measures consisted of hiring a collector to monitor, follow-up, and make actual collections as shown by the item average of 2.78 based on the weighted mean of 2.79 from the Board Members, 2.76 from the committees, and 2.78 from the individual members; and automatically deviating from an original plan (Plan A) by adopting an alternative plan (Plan B) as indicated by the item average of 3.11 based on the weighted mean of 3.10 from the Board Members, 3.07 from the committees, and 3.16 from the individual members.

From these findings, it could be inferred that to a limited extent, the shareholder cooperatives hired a person to collect the amortization payments of borrowers. This scheme was implemented to minimize delinquency in credit operations. Hiring field personnel was also adopted by the Zamboanga del Norte Cooperative Bank and even other financial institutions as a means of controlling non-performing loans and bad accounts. The risk was also managed in a way that not only one course of action was taken during an emergency. Planning was done in such a manner, that instead of formulating only one plan, the officers designed an alternative plan. In any eventuality, when Plan A could not be adopted, Plan B could be taken.

As revealed by the item average of 3.53 based on the weighted mean of 3.62 from the Board Members, 3.56 from the committees, and 3.42 from the individual members, the risk was managed to a Great Extent by fixing a maximum loanable amount for a single borrower.

This finding showed that in the majority of cases, the cooperatives set a specific amount as the highest value which single borrowers could be granted when they applied for loans. This control measure was implemented so that many members could borrow money at one time and also minimize the risk of non-collection. The situation of non- recovery of accounts released could be attributed to excessive availment of the borrower that impaired his capacity to pay the loan.

To a Moderate Extent, the cooperatives implemented control measures by instituting legal action for delinquent and non-paying borrowers, as indicated by the item average of 2.99 based on the weighted mean of 2.84 from the Board Members, 3.01 from the committees; and 3.13 from the individual members; and accelerating the collection of receivables to avoid financial crisis, as shown by the item average of 3.36 based on the weighted mean of 3.38 from the Board Members, 3.38 from the committees, and 3.32 from the individual members.

These findings showed that to a limited extent, the cooperatives resorted to legal remedies against borrowers who were considered problematic by not paying their matured obligations. The purpose was to protect the best interest of the investors and the cooperative organization as a whole. Furthermore, the measure was implemented so that the borrowers may know that when payments were due and demandable, the cooperatives were firm in collecting them. Also, the cooperatives showed that to a limited extent, they were efficient in the collection of loan amortizations from the members. In other words, collection efficiency in the cooperatives did not reach the standards set by banks and other financial institutions.

To a Great Extent, the cooperatives enforced stricter measures for screening loan applicants, as indicated by the item average of 3.42. The weighted mean of 3.41 from the Board Members and 3.47 from the committees showed that this measure was implemented to a Great Extent. The weighted mean of 3.37 from the individual members showed that this measure was implemented to a Moderate Extent.

Generally, the system of enforcing stricter measures for screening loan applicants was implemented in a majority of cases as viewed by the Board of Directors and committees. However, the individual members viewed that the measure was strict only to a limited extent. The stand of the Board of Directors and committees was the result of their awareness of the lending policies set by them. The purpose of adequate screening of loan applications was to avoid possible problems in the collection of accounts. Though risk management is mostly a term for the producers, within an organization, it has followed to protect itself, its staff, its clients, and its other stakeholders. It is an ongoing process and an important part of the planning of every business. Risk management should framework to reduce or eliminate the risk of certain kinds of shock on the business (Six and Kowalski, 2005).

Table 7 presents data regarding the extent to which strategies of loss financing were implemented in the member cooperatives.

As revealed by the factor average of 2.92 based on the group average of 2.95 from the Board Members, 2.87 from the committees, and 2.93 from the individual members, strategies of loss financing were implemented to a Moderate Extent.

To a Lesser Extent, the measure of establishing a Retirement Fund for the employees of the cooperative was implemented, as shown by the item average of 2.46 based on the weighted mean of 2.33 from the Board Members, 2.46 from the committees and 2.58 from the individual members.

This finding implied that only on a selective basis could additional retirement benefits be given to employees of cooperatives aside from the benefits granted by the Social Security System. Thus, there were few cases of provisions for more security in old age among the employees of cooperatives.

Any prospect of job loss before retirement age was not provided with financing; consequently, retrenched employees might not be given full benefits. The establishment of the cooperative Retirement Fund (RF) was supplementary to the benefits granted by the Social Security System upon retirement.

To a Moderate Extent, an Optional Fund (OF) was allocated annually, as shown by the item average of 2.87 based on the weighted mean of 2.90 from the Board Members, 2.83 from the committees, and 2.87 from the individual members; and there was an allocation for education and training fund to finance the training expenses of cooperatives, as denoted by the item average of 3.23 based on the weighted mean of

3.27 from the Board Members, 3.15 from the committees, and 3.26 from the individual members.

From these findings, it could be inferred that to a limited extent, an Optional Fund (OF) for the construction of buildings, community development, and other purposes was allocated. The limitation of Optional Fund (OF) implied that the cooperatives could not pursue its developmental programs and projects because of financial constraints. This was attributed to the inadequate allocation of such reserve fund due to minimal earnings

of cooperatives. The cooperative law provided that the annual provision for Optional Fund (OF) should not exceed ten percent (10%) of the net surplus. In like manner, the Education and Training Fund (ETF) was allocated for the training of cooperatives; however, the amount was limited. This finding implied that with the limited amount set aside for training purposes, the cooperative movement would not be accelerated. The cooperative law also provided that the annual allocation of the Education and Training Fund (ETF) should not be more than ten percent (10%) of the net surplus of the cooperative.

As indicated by the item average of 3.31, the measure of allocating annually for the Reserve Fund (RF) to absorb possible losses on operations was implemented to a Moderate Extent. The Board Members viewed this measure as implemented to a Great Extent, as shown by the weighted mean of 3.42. The committees (μ = 3.29) and the individual members (μ = 3.23) viewed this measure as implemented to a Moderate Extent. These findings revealed that to a limited extent, the cooperatives allocated a Reserve Fund (RF) that could be used for the stability of the cooperative and to meet net losses in its operations. However, the Board Members viewed this measure as implemented in the majority of cases. The disparity in the responses of the two groups could be attributed to the varying levels of knowledge of operations that the respondents possessed. The committees and the individual members regarded that reserve funds were available in half of the cases, while the Board Members viewed the reserve funds' availability in the majority of cases. The Board Members had more knowledge of the availability and sufficiency of funds than either the committees or the individual members. All of the groups knew the available amount of funds because of the financial reports, but what was sufficient from the Board Members' viewpoints was not sufficient for other respondents.

Implemented to a Moderate Extent were the measures of providing an Allowance for Bad Debts to absorb possible losses on loans, as revealed by the item average of
2.86 based on the weighted mean of 2.92 from the Board Members, 2.83 from the committees, and 2.84 from the individual members; requiring a bond of accountable officers of the cooperative, as shown by the item average of 3.18 based on the weighted mean of 3.33 from the Board Members, 2.96 from the committees, and 3.26 from the individual members; covering the borrowers by a loan insurance protection in case of death, as shown by the item average of 2.80 based on the weighted mean of 2.81 from the Board Members, 2.81 from the committees, and 2.79 from the individual members; and covering facilities and equipment by an insurance, as indicated by the item average of 2.63 based on the weighted mean of 2.65 from the Board Members, 2.60 from the committees, and 2.65 from the individual members.

From these findings, it could be inferred that the implementation of measures to ensure against losses in the cooperatives was limited. Specifically, the provision for an amount that would cover losses caused by bad debts was limited. If for some reasons, some of the borrowers could not pay their debts, a corresponding amount was allocated for this prospect of loss to the cooperative.

For the purpose of warding off the possibility of loss in the case of mishandling funds, the cooperatives were required to secure fidelity bonds for their accountable officers and employees like the cashier, treasurer, and collectors as mandated by the Cooperative Development Authority. However, not all cooperatives had complied

the

requirement. Also, to a limited extent, the cooperatives caused the coverage of a loan redemption insurance that would serve as payment for the loan in the event of the death of the borrower. However, not all cooperatives were practicing this measure. Finally, insurance coverage against damage to facilities and equipment was drawn by some cooperatives. Thus, not all cooperatives manage risk by providing for loss financing. Loss financing consists of methods used to obtain funds to pay for or offset losses that occur. Internal sources of funds to pay retained losses included cash flows from ongoing activities, general working capital, and investments in liquid assets that are dedicated to financing. Another method of financing losses is the purchase of insurance contracts (Harrington and Niehaus, 2004).

Table 8 presents data regarding the extent to which the member cooperatives of the Zamboanga del Norte Cooperative Bank implemented strategies of internal risk reduction.

As denoted by the factor average of 3.17 based on the weighted mean of 3.23 from the Board Members, 3.11 from the committees, and 3.18 from the individual members, strategies for internal risk reduction were adopted to a Moderate Extent. There were, however strategies that were implemented to a Great Extent in the cooperatives. Those that were implemented to a Great Extent were the strategies of submitting the cooperative to a yearly audit by the Audit and Inventory Committee, as shown by the item average of 3.67 based on the weighted mean of 3.81 from the Board Members, 3.58 from the committees, and 3.62 from the individual members; analyzing the financial statements and other monthly data to detect potential problems, as disclosed by the item average of
3.61 based on the weighted mean of 3.74 from the Board Members, 3.53 from the committees, and 3.57 from the individual members, and observing proper
internal control (as, against fraud) in the cooperative, as indicated by the item average of 3.53 based on the weighted mean of 3.61 from the Board Members, 3.49 from the committees, and 3.50 from the individual members.

From these findings, it could be inferred that in the majority of cases, the cooperatives used protective mechanisms to prevent any instance in which their funds would be depleted unnecessarily. Annual audits by internal auditors were conducted in order to determine the financial standing of the cooperatives. Through these audits, the income and expenses could be traced. The determination of cash position of the cooperatives would be facilitated.

Data within the cooperatives were used for determining the financial standing of such organizations. Among the available data were the financial statements comprising of Income Statement and Balance Sheet. These statements were analyzed in order to determine the potential problems which might be encountered by the cooperatives. Moreover, measures against fraud were also taken in the majority of cases. Internal control system were established for the purpose of safeguarding the assets and properties of the cooperatives.

Implemented to a Moderate Extent were the measures of providing the employees with appropriate insurance coverage as required by law, as revealed by the item average of 2.65 based on the weighted mean of 2.70 from the Board Members, 2.61 from the committees, and 2.65 from the individual members; giving salaries to employees with the minimum as required by law, as revealed by the item average of 2.89 based on the

weighted mean of 2.86 from the Board Members, 2.82 from the committees, and 2.98 from the individual members; mentoring selected employees to fill up future vacancies in technical positions, as revealed by the item average of 2.80 based on the weighted mean of 2.77 from the Board Members, 2.73 from the cooperatives, and 2.90 from the individual members; monitoring conflict of business interest within the board, the management and the staff, as disclosed by the item average of 3.13 based on the weighted mean of 3.17 from the Board Members, 3.06 from the committees, and 3.15 from the individual members; and engaging in diversified cooperative services and activities, as indicated by the item average of 3.11 based on the weighted mean of 3.15 from the Board Members, 3.10 from the committees, and 3.09 from the individual members.

These findings implied that to a limited extent, the cooperatives took measures to ensure that they would not incur voluminous expenses that would threaten their financial stability. So, to be able to help the employees in times of financial difficulties especially on the cost of hospitalization in case of accident or sickness, and to avoid legal problems for non-compliance of the law, some of the cooperatives provided their employees with insurance coverage. Thus, some of the employees of cooperatives were given Social Security System coverage.

Furthermore, the cooperatives gave salaries to employees based on the Minimum Wage Law. By means of giving their employees, this type of salary scheme, they could prevent expenses that might be incurred because of litigations that might arise if they did not comply with the law. Selected employees were subjected to training and mentoring to occupy vacant technical, supervisory, and even managerial positions. This strategy enables the cooperatives to prepare employees for succession in various positions for sustainable operations.

Another strategy to protect the best interest of the cooperatives was the monitoring of business activities of the Board of Directors, the management, and employees. These activities were monitored because they could affect the decisions of the board as well as the implementation of the programs and projects of the organization. The cooperatives expanded in half of the cases, the services and business activities using diversification. Through strategy, the cooperatives could sustain their operations in the competitive business environment. Protiviti (2006) states, “ERM broadens the focus of risk management to all significant sources of enterprise value.”

Table 9 presents the summarized data on the extent to which the member cooperatives of the Zamboanga del Norte Cooperative Bank implemented strategies for risk management.

As shown by the general average of 3.14 based on the group general average of 3.17 from the Board Members, 3.11 from the committees, and 3.14 from the individual members, risk management systems were implemented to a Moderate Extent, by the member cooperatives of the Zamboanga del Norte Cooperative Bank.

Risk control measures were implemented generally to a Moderate Extent as shown by the factor average of 3.34 from the Board Members, 3.34 from the committees, and
3.31 from the individual members. An examination into the specific measures showed that some of them were implemented to a Great Extent, while the majority of the measures were implemented to a Moderate Extent.

As viewed by the three groups of respondents, the measures of considering the borrowers' capacity to pay in extending credit and considering the members' capital investment as a basis for determining the amount of loan were implemented to a Great Extent. The measures of hiring a collector to monitor, follow up, and make actual collections as well as the automatic deviation from an original plan (Plan A) by adopting an alternative plan (Plan B) to cope with the economic crisis were implemented to a Moderate Extent. On the other hand, the measure of fixing a maximum loanable amount for a single borrower was implemented to a Great Extent. The measures of instituting legal action for delinquent and non-paying borrowers and accelerating the collection of receivables to avoid financial crisis were implemented to a Moderate Extent while enforcing stricter measures for screening loan applicants were viewed by the Board Members and the committees to be implemented to a Great Extent and by the individual members to be implemented to a Moderate Extent.

Strategies of loss financing were implemented to a Moderate Extent by the cooperatives as indicated by the factor average of 2.92 based on the group average of
2.95 from the Board Members, 2.87 from the committees, and 2.93 from the individual members, although one strategy was implemented to a Less Extent. This strategy consisted of establishing a retirement fund for employees of the cooperatives. Implemented to a Moderate Extent were the measures of allocating annually an optional fund for the cooperative and allocating annually for the Education and Training Fund to finance the training expenses of the cooperative.

Viewed by the Board Members as implemented to a Great Extent but by the committees and the individual members as implemented to a Moderate Extent was the measure of allocating annually for the General Reserve Fund to absorb possible losses on operations. Implemented to a Moderate Extent were the measures of providing an allowance for bad debts to absorb possible losses on loans, requiring a bond of accountable officers of the cooperatives, covering the borrowers by loan protection insurance in case of death, and covering facilities and equipment by insurance.

Internal risk reduction strategies were generally implemented to a Moderate Extent, as revealed by the factor average of 3.17 based on the group average of 3.23 from the Board Members, 3.11 from the committees, and 3.18 from the individual members. Three strategies, however, were implemented to a Great Extent. These strategies included submitting the cooperative to a yearly audit by the Audit and Inventory Committee, analyzing the financial statements and other monthly data to detect potential problems, and observing proper internal control systems in the cooperative.

The rest of the strategies were implemented in the cooperatives to a Moderate Extent. These strategies included providing the employees with appropriate insurance coverage as required by law, giving salaries to employees with the minimum as required by law, mentoring selected employees to fill up future vacancies in technical positions, monitoring conflict of interest within the board, management, and staff, and engaging in diversified cooperative services and activities.

Table 10 presents data on the implementation of control in the member cooperatives through the statement of success indicators.

As revealed by the factor average of 3.06 based on the group average of 3.06 from the Board Members, 3.07 from the committees, and 3.06 from the individual members, control practices were implemented to a Moderate Extent in the member cooperatives.

Specifically implemented to a Moderate Extent were the measures of requiring an increase in the profits of the cooperatives by ten to fifteen percent as compared to the previous year, as shown by the item average of 3.23 based on the weighted mean of 3.26 from the Board Members, 3.22 from the committees, and 3.22 from the individual members; requiring an increase in assets by more than twenty-five percent as compared to the previous year, as indicated by the item average of 3.03 based on the weighted mean of 3.04 from the Board Members, 3.01 from the committees, and 3.03 from the individual members; targeting a reserve fund of more than ten percent of net surplus, as indicated by the item average of 3.17 based on the weighted mean of 3.14 from the Board Members, 3.18 from the committees, and 3.18 from the individual members; and requiring an increase in the number of members or clientele by more than twenty percent as compared to the previous year, as disclosed by the item average of 2.97 based on the weighted mean of 2.87 from the Board Members, 2.95 from the committees, and 3.08 from the individual members.

From these findings, it could be inferred that control practices through the use of indicators for the increase in revenue were used in the number of cooperatives to a limited extent. In an interview with the various Teachers' Cooperatives, some of the committees and individual members revealed that increases in profits of the cooperatives were aspired, but difficult to attain because all increases in revenues would depend on the volume of business. The same members also declared that the success indicators could be possibly stated in a development plan, but most of the cooperatives did not formulate development plans. These statements were made during the meetings, but they would have the full force of obligation if they were placed in the development plans of the cooperatives (Interview with the Teachers' Cooperatives on December 7-8, 2004).

Also, the use of indicators for the increase in assets was used by cooperatives to a limited extent. The inclusion of the increase in resources of the cooperatives in their action plans could trigger the management to struggle and exert more effort for the attainment of such an objective. An increase in assets was one of the barometers used by financial institutions in assessing the growth and development of cooperatives.

Likewise, the setting up of a target for the increase in reserve funds was made to a limited extent. The objective of augmenting the reserve fund could enhance the stability of the cooperatives. The Cooperative Code provided that at least ten percent (10%) of the net surplus of the cooperative should be set aside for the purpose. Furthermore, the objective of membership expansion by cooperative shareholders was also considered to a limited extent. This target was very necessary to increase the volume of patronage from the members which could eventually result in profitability. This strategy could also cause an increase in the capitalization of cooperatives.

To a Moderate Extent, more measures were implemented for control. These measures included maintaining a past due rate of not more than twenty-five percent, as revealed by the item average of 2.95 based on the weighted mean of 2.94 from the Board Members, 2.96 from the committees, and 2.95 from the individual members; targeting an increase in capital by at least twenty-five percent as compared to the

previous year, as disclosed by the item average of 3.03 based on the weighted mean of 3.01 from the Board

Members, 3.08 from the cooperatives, and 3.00 from the individual member; requiring a decrease in the operating cost of the cooperatives by five percent as compared to the previous year, as indicated by the item average of 3.00 based on the weighted mean of
3.05 from the Board Members, 3.02 from the cooperatives, and 2.92 from the individual members; and maintaining a collection rate of at least seventy-five percent of the amounts due and collectible, as revealed by the item average of 3.14 based on the weighted mean of 3.17 from the Board Members, 3.13 from the committees, and 3.12 from the individual members.

From these findings, it could be inferred that statement of success indicators for the purpose of guiding and controlling operations of cooperatives were made, but to a limited extent. Controls were made to a limited extent, on the past due borrowers of cooperatives. If this control would be stated categorically by the cooperatives, it would guide the employees to intensify the collection in order to reduce the borrowers' delinquency. Past due reduction should be focused by cooperatives so that they could maintain their best liquidity position. Likewise, any strategy for the increase in capital would improve the financial status of the cooperatives. However, this success indicator was stated to a limited extent in the plans of the cooperatives which were discussed during the meetings with cooperative leaders. Furthermore, the parameters of reducing the operating costs were also considered to a limited extent since many cooperatives did not engage in formal planning. This strategy was considered vital to the business operation because the effect of this objective could mean more profits of the cooperative. Finally, the improvement of collection rate especially on credit operations was included in the plans of cooperatives to a limited extent. This was attributed to the fact that some of the cooperatives had no collectors to focus on the collection of receivables. Success indicators are values or standards used as a point of reference for the extent to which the objectives of an organization are met. Success indicators are sets of accomplishments that may be expected of an individual or a group. In some instances, objectives may be used as success indicators (Rue and Byars, 2002).

Table 11 presents data on the implementation of operations control practices through performance monitoring in the member cooperatives of the Zamboanga del Norte Cooperative Bank.

As indicated by the factor average of 3.36 based on the group average of 3.40 from the Board Members, 3.33 from the committees, and 3.24 from the individual members, control practices through performance monitoring were implemented to a Moderate Extent. Some measures, were, however implemented to a Great Extent.
The measure of submitting the cooperative to performance and fiscal audit by an external auditor was implemented to a Great Extent, as indicated by the item average of 3.46 based on the weighted mean of 3.55 from the Board Members, 3.41 from the committees, and 2.43 from the individual members.

This finding denoted that in the majority of cases, the cooperatives availed the services of external auditors to determine the reliability of their financial statements. The purpose of engaging in external auditors was to countercheck the findings of the Audit and Inventory Committee of cooperatives. In this manner, control would be imposed, because the external auditors, being disinterested parties to the cooperatives, could present an objective view of the financial standing of the

cooperatives.

Implemented to a Moderate Extent by the member cooperatives were the measures of conducting a semi-annual performance evaluation of employees, as indicated by the item average of 2.98 based on the weighted mean of 3.01 from the Board Members, 2.88 from the committees, and 3.05 from the individual members; and monitoring the trend of the members' patronage to cooperative services, as shown by the item average of 3.30 based on the weighted mean of 3.33 from the Board Members, 3.35 from the committee, and 3.22 from the individual members.

From these findings, it could be inferred that while controls were made through the evaluation of employees' performance, this measure was implemented to a limited extent. The objective of this control measure was to determine the efficiency and effectiveness of employees especially in the performance of their job duties and responsibilities. According to the members of government employees' cooperatives, the evaluation of personnel was not formally done because some cooperatives did not have performance evaluation instruments. On the other hand, the monitoring of the trend in the patronage of cooperative services was done, but to a limited extent. This method was very necessary because the volume of business of cooperatives largely depended on the involvement and participation of the members. The officers of the government employees' cooperatives noted that the monitoring of patronage was not easy because of the lack of personnel. In other words, they could conduct monitoring activities to a limited extent.

To a Moderate Extent, the measure of monitoring the amortization payments of member borrowers was implemented, as indicated by the item average of 3.39. The weighted mean of 3.45 from the Board Members indicated their view that this measure was taken to a Great Extent. It was viewed as implemented to a Moderate Extent by the committees, who rated it 3.38, and by the individual members, who rated it 3.35.

Regarding the monitoring activities of cooperatives especially on the amortization payments of borrowers, the Board of Directors viewed its implementation to a majority of cases, while the committees and individual members considered the measure as implemented to a limited extent.

The disparity in the responses of the three groups could be attributed to the difference in the positions that they occupied in their respective cooperatives. The board responded that the monitoring of amortization was done in the majority of cases, because this measure was part of their duties and responsibilities. The other two groups were aware of the implementation of monitoring practices, but because they had not taken charge of monitoring duties, they indicated that this measure was taken to a limited extent.

As indicated by the item average of 3.41, the measure of monitoring compliance of the by-laws, rules, and regulations of the cooperative was implemented to a Great Extent. The weighted mean of 3.41 from the Board Members and 3.43 from the committees showed that they viewed this measure to be implemented to a Great Extent. The weighted mean of 3.38 from the individual members indicated that they perceived this measure to be implemented to a Moderate Extent.

Based on this finding, the measure of monitoring compliance of the by-laws, rules and regulations of the cooperatives was implemented in the majority of cases specifically as viewed by the Board of Directors and the committees. However, it was viewed by the individual members in half of the cases. The disparity of the responses of the Board Members and the committees on one hand and the

individual members on the other,

could be attributed to the interest which they had in connection with compliance of the by- laws, rules and regulations. The Board of Directors were interested in the members' compliance, therefore monitored it very well. The individual members on the other hand, viewed the measure from the passive perspective of a group from whom compliance was required, therefore viewed the measure as implemented to a limited extent.

Implemented to a Great Extent were the measures of monitoring submission and compliance of annual reports and audited financial statements to the Cooperative Development Authority, as indicated by the item average of 3.51 based on the weighted mean of 3.60 from the Board Members, 3.45 from the committees, and 3.47 from the individual members; and identifying active and inactive members of the cooperative, as disclosed by the item average of 3.44 based on the weighted mean of 3.44 from the Board Members, 3.42 from the committees, and 3.45 from the individual members.

Implied by these findings was the control imposed on operations by the strict compliance of the requirements of the law. The submission of annual reports was mandated under Article 54 of Republic Act 6938, otherwise known as the Cooperative Code of the Philippines. Thus, the required annual reports and audited financial statements were submitted to the Cooperative Development Authority in the majority of cases by the shareholder cooperatives. Also, the cooperatives identified the active and inactive individual members in the majority of cases. This measure was useful in determining the collection of unpaid subscriptions, monitoring of accounts, and the distribution of dividends to cooperative members. In addition, the present number of members could be the basis for membership expansion of the cooperatives.

Table 12 contains data on the implementation of operations control practices through the correction of deviation from standards among the member cooperatives of the Zamboanga del Norte Cooperative Bank.

As indicated by the factor average of 3.25 based on the group average of 3.36 from the Board Members, 3.19 from the committees, and 3.21 from the individual members, control practices through the correction of deviation from standards were implemented, to a Moderate Extent, in the member cooperatives.

Specifically, the item average of 3.39 indicated that the measure of suggesting techniques of collecting the obligations of individual members was implemented to a Moderate Extent. The weighted mean of 3.49 from the Board of Directors denoted that they viewed this measure as implemented to a Great Extent. The view that it was implemented to a Moderate Extent was held by the committees, as revealed by the weighted mean of 3.34 and by the individual members, as indicated by the item average of 3.34.

The Board of Directors viewed in the majority of cases, that officers suggested ways and means of collecting the problematic accounts of borrowers, while the committees and individual members perceived the measure as implemented in half of the cases. The responses of the Board of Directors differed from those of the committees and the individual members because the former were responsible for identifying innovative techniques of collecting the members' obligations. The Board Members were more concerned with the use of various collection strategies and enforcing the rules in order to maintain a good financial position in their respective cooperatives.

As disclosed by the item average of 3.48 based on the weighted mean of 3.50 from the Board Members, 3.43 from the committees, and 3.50 from the individual members, the practice of requesting that all committees regularly perform their functions was implemented to a Great Extent.

From this finding, it could be inferred that in the majority of cases, the cooperatives rectified the deviations from standards by reminding the various committees of their duties and responsibilities. In other words, emphasis was made on the performance of committee obligations in order to strengthen their respective organizations and to provide direction to the movement. These committees include the Audit and Inventory Committee, Credit Committee, Education and Training Committee and Election Committee as stated in the by-laws of the cooperatives.

As disclosed by the item average of 3.45, the practice of requiring the members to attend the Pre-Membership Education Seminar on the cooperative was implemented to a Great Extent. The weighted mean of 3.59 from the Board of Directors denoted their view that this practice was implemented to a Great Extent. The weighted mean of 3.36 from the committees indicated their view that this practice was implemented to a Moderate Extent, while the weighted mean of 3.41 from the individual members showed their view that this practice was implemented to a Great Extent.

On the basis of this finding, the Board of Directors together with the individual members had an opposing view with that of the committees. For the Board of Directors and individual members, the measure was implemented in the majority of cases, while the committees viewed that the measure was made in half of the cases.

The disparity of the responses of the Board of Directors and individual members on one hand and the committees on the other was due mainly to the responsibilities assumed by them. The Board Members were concerned with the Pre-Membership Education Seminar, since they were responsible for the conduct of this seminar. The individual members knew that his seminar was required for membership. The group that was most concerned was that which took charge of membership. Thus, the committees, while performing their respective assignments, may not have been concerned with membership. As a result, they viewed this practice as implemented to a limited extent.

As indicated by the item average of 3.15 based on the weighted mean of 3.23 from the Board Members, 3.10 from the committees, and 3.13 from the individual members, the practice of proposing sanctions for directors and officers who neglect their duties was implemented to a Moderate Extent.

This finding implied that to a limited extent, penalties were meted out to the directors and officers who reneged their duties and responsibilities to the cooperatives. This measure was implemented in order to strengthen the cooperatives especially those with irresponsible and disloyal directors. The disciplinary actions towards the directors and officers were mandated by virtue of the provisions of Article 46 and 49 of Republic Act 6938.

As indicated by the item average of 3.36, the practice of correcting the ways in which records were kept by the cooperatives was implemented to a Moderate Extent. The weighted mean of 3.49 indicated the Board Members' view that this practice was implemented to a Great Extent. It was viewed as implemented to a Moderate Extent by the committees, as revealed by the weighted mean of 3.32 and the individual members, as revealed by the weighted mean of 3.26.

Based on this finding, the Board of Directors on one hand and the committees and individual members on the other hand, had different views in correcting the recording systems of the cooperatives. For the Board Members, they viewed as implemented in the majority of cases, while for the committees and individual members, they perceived the measure as done in half of the cases.

The response of the Board Members differed from that of the committees and the individual members according to the extent of their awareness regarding the inspection of records that was conducted by the Board Members. Record-keeping was given much importance by the Board Members, who exerted much effort to make corrections on the record-keeping techniques of cooperatives. Clarity of records could facilitate the detection of fraud. For this reason, the Board of Directors were very much concerned with correct record-keeping.

Implemented to a Moderate Extent were the practice of imposing penalties for non- attendance in membership meetings, as shown by the item average of 2.97 based on the weighted mean of 3.15 from the Board Members, 2.84 from the committees, and 2.92 from the individual members; and suggesting ways of terminating directors or officers whose pecuniary interests were in conflict with their duties toward the cooperative, as disclosed by the item average of 2.99 based on the weighted mean of 3.06 from the Board Members, 2.97 from the committees, and 2.94 from the individual members.

Implied by these findings were the facts that the imposition of sanctions for non- attendance to membership meetings and the application of termination measures to directors and officers were implemented to a limited extent in the cooperatives. Penalties were not usually imposed to the members, since membership meetings could be a measure of the members' interest in the organization. However, termination of membership could even be imposed in accordance with the provisions of Article 31 of Republic Act 6938. In the case of directors and officers whose activities and interests were in conflict with the cooperative, could be removed by a vote of two-thirds (2/3) of the voting members present and constituting a quorum, in a regular or special general assembly meeting called for the purpose as provided by law. This is consistent to Gobenciong (2001) study which revealed that the deputized disaster management coordinators demonstrated risk management capabilities through deviation from the plan and deviation from past experiences to a Moderate Extent. They manifested risk management capabilities through opportunity finding to a Great Extent.

Table 13 presents summarized data on the implementation of operations control practices in the member cooperatives of the Zamboanga del Norte Cooperative Bank.

As shown by the general average of 3.22 based on the group general average of 3.27 from the Board Members, 3.20 from the committees, and 3.20 from the individual members, operations control practices were implemented in the member cooperatives to a Moderate Extent.

The statement of success indicators was implemented to a Moderate Extent, as indicated by the factor average of 3.06 based on the group average of 3.06 from the Board Members, 3.07 from the committees, and 3.06 from the individual members.

Specifically implemented to a Moderate Extent were the measures of requiring an increase in the profits of the cooperatives by ten to fifteen percent as compared to

the previous year, requiring an increase in assets by more than twenty-five percent as

compared to the previous year, requiring an increase in assets by more than twenty-five percent as compared to the previous year, targeting a reserve fund of more than ten percent of the net surplus, and requiring an increase in the number of members or clients by more than twenty percent as compared to the previous year. Also implemented to a Moderate Extent were the measures of maintaining a past due rate of not more than twenty-five percent, targeting an increase in capital by at least twenty-five percent as compared to the previous year, requiring a decrease in the operating cost of the cooperative by five percent as compared to the previous year, and maintaining a collection rate of at least seventy-five percent of the amounts due and collectible.

The implementation of performance monitoring was made to a Moderate Extent, as revealed by the factor average of 3.36 based on the group average of 3.40 from the Board Members, 3.33 from the committees, and 3.34 from the individual members. There were, however some measures that were implemented to a Great Extent. The practice of submitting the cooperative to performance and fiscal audit by an external auditor was implemented to a Great Extent. Implemented to a Moderate Extent were the practices of conducting a semi-annual performance evaluation of employees and monitoring the trend of the members' patronage to cooperative services.

The practice of monitoring the amortization payments of member borrowers was viewed by the Board Members as implemented to a Great Extent and by the committees and individual members as implemented to a Moderate Extent. The practice of monitoring compliance of the by-laws, rules, and regulations of the cooperative was viewed by the Board Members and the committees as implemented to a Great Extent and by the individual members as viewed to a Moderate Extent. Implemented to a Great Extent were the practice of monitoring submission and compliance of annual reports and audited financial statements to the Cooperative Development Authority and identifying active and inactive members of the cooperative.

Operations control practices through the correction of deviations from standards were implemented to a Moderate Extent, as disclosed by the factor average of 3.25 based on the group average of 3.36 from the Board Members, 3.19 from the committees, and
3.21 from the individual members.

Viewed by the Board Members as implemented to a Great Extent and by the committees and individual members as implemented to a Moderate Extent was the practice of suggesting techniques of collecting the obligations of individual members, while all of the three groups viewed the practice of requesting that all committees regularly perform their functions as implemented to a Great Extent. The practice of requiring the members to attend the Pre-Membership Education Seminar on Cooperatives was viewed by the Board Members and the individual members as implemented to a Great Extent and by the committees as implemented to a Moderate Extent. Viewed by all groups as implemented to a Moderate Extent was the practice of proposing sanctions for directors and officers who neglect their duties and responsibilities.

The practice of correcting the ways in which records were kept by the cooperatives was viewed by the directors as implemented to a Great Extent and by the committees and individual members as implemented to a Moderate Extent. The practices of imposing penalties for non-attendance to membership meetings and

suggesting ways of terminating directors or officers whose pecuniary interests are in conflict with their duties toward the cooperative were implemented to a Moderate Extent.

As shown in **Table 14**, there was no significant correlation between the implementation of goal setting and risk control measures, as shown by the computed r value of 0.599, loss financing, as shown by the computed r value of 0.562, and internal risk reduction, as revealed by the computed r value of 0.630, all of which were less than 0.707, the region of rejection at six degrees of freedom.

These findings meant that goal setting in the corporate governance did not have any effect on the risk control measures, loss financing schemes, and internal risk reduction. Thus, these risk management systems could not be traced to the goal setting measures used by the member cooperatives.

There was a significant correlation between the implementation of organizational strategies and the risk control measures used by the cooperatives, as shown by the computed r value of 0.832, but there was no significant correlation between the organizational strategies implemented by the cooperatives and their loss financing schemes, as indicated by the computed r value of 0.672. However, there was a significant correlation between organizational strategies and internal risk reduction, as indicated by the computed r value of 0.819.

These findings revealed that the organizational strategies used by the member cooperatives had effects on the risk control measures used by the cooperatives as well as on the internal risk reduction measures used by them. However, their organizational strategies did not affect the loss financing schemes used by the cooperatives.

There was a significant correlation between the member cooperatives' implementation of administrative policies and procedures and their risk control measures, as revealed by the computed r value of 0.768, but there was no significant correlation between the implementation of administrative policies and procedures and their loss financing schemes, as revealed by the computed r value of 0.699. There was a significant correlation in the implementation of administrative policies and procedures and their internal risk reduction measures, as revealed by the computed r value of 0.751.

These findings showed that the aspect of governance consisting of administrative policies and procedures affected the risk control measures of the cooperatives as well as the internal risk reduction measures used by them. The administrative policies and procedures did not affect their loss financing schemes.

There was a significant correlation between the member cooperatives' implementation of feedback systems and their risk control measures, as revealed by the computed r value of 0.857; their loss financing measures, as shown by the computed r value of 0.816; and internal risk reduction measures, as revealed by the computed r value 0.853.

These findings revealed that the feedback systems of the cooperatives generally provided for the discussion of the implementation of risk control measures, loss financing schemes, and internal risk reduction. Thus, feedback regarding the ways to manage risk was solicited from the members.

Taking into consideration the results of the Pearson r test, the first null hypothesis was Accepted when applied to goal setting and the factors of risk management; Rejected when applied to the relationship between organizational strategies, and administrative policies and procedures on one hand and risk control measures and internal risk reduction on the other; Accepted when applied to the factors of corporate governance and loss

financing, and Rejected when applied to feedback systems and the risk management measures.

As revealed in **Table 15**, there was no significant correlation between the implementation of goal setting and the statement of success indicators, as revealed by the computed r value of 0.519, and performance monitoring, as shown by the computed r value of 0.606. There was a significant correlation between the implementation of goal setting and deviation from standards, as shown by the computed r value of 0.863.

These findings revealed that the implementation of goal setting had no connection with the statement of success indicators and performance monitoring in the member cooperatives of the Zamboanga del Norte Cooperative Bank. Thus, while the goals provided for deviation from standards, they did not provided for the other two practices.

There was a significant correlation between the implementation of organizational strategies and the statements of success indicators, as shown by the computed r value of 0.784 and performance monitoring as shown by the computed r value of 0.762. There was no significant correlation between the implementation of organizational strategies and deviation from standards, as indicated by the computed r value of 0.634.

These findings showed that the organizational strategies included the statement of success indicators and performance monitoring. No measures for deviating from standards were taken.

There was a significant correlation between the implementation of administrative policies and procedures and the statement of success indicators, as shown by the computed r value of 0.744. There was no significant correlation between the implementation of administrative policies and procedures and performance monitoring, as shown by the computed r value of 0.012, and deviation from standards, as revealed by the computed r value of 0.642.

These findings showed that while the administrative policies provided for the statement of success indicators, the measures for monitoring performance and deviation from standards were implemented.

There was no significant correlation between the member cooperatives' implementation of feedback systems and the statement of success indicators, as shown by the computed r value of 0.692. There was a significant correlation between the implementation of feedback systems and performance monitoring measures, as revealed by the computed r value of 0.840 and deviation from standards as revealed by the computed r value of 0.766. These findings implied that feedback was not solicited regarding the statement of success indicators. However feedback was solicited on performance monitoring and deviation from standards.

Based on the Pearson r test, the second null hypothesis was Accepted when applied to goal setting and feedback on one hand and the statement of success indicators on the other hand and between goal setting and administrative policies and procedures on one hand and performance monitoring on the other hand. The null hypothesis was Accepted when applied to the implementation of organizational strategies and administrative policies and procedures on one hand and deviation from standards on the other hand. The null hypothesis was Rejected when applied to the correlation between the implementation of organizational strategies and administrative policies and procedures on one hand and the statement of success

indicators on the other hand. The

null hypothesis was Rejected when applied to goal setting and deviation from standards and organizational strategies and performance monitoring, as well as feedback systems and performance monitoring.

Table 16 presents the program for improving the corporate governance of cooperatives. This program is based on the database presented below.

Data Base: Table 1 shows that according to the evaluation of the committees and the individual members, thrift and savings among the members were encouraged to a Moderate Extent in the cooperatives, and that to a Moderate Extent, as evaluated by the three groups, the cooperatives provided social services to its members and increased the volume of business of the cooperatives.

Table 2 shows that to a Moderate Extent training was provided annually to the directors, committees and employees; the latest technology in the processing of transactions was adopted, and continuous membership expansion was implemented.

Table 3 shows that all administrative policies and procedures were implemented to a Moderate Extent.

Table 4 discloses that all feedback systems were implemented to a Moderate Extent.

Table 17 presents the program for revitalization of risk management systems. This program is based on the database presented below.

Data Base: Table 6, on risk control measures, shows that to a Moderate Extent, the cooperatives implemented the measures of hiring a collector to monitor, follow up, and make actual collections; automatically deviating from an original plan (Plan A) by adopting an alternative plan (Plan B) to cope with economic crisis; instituting legal action for delinquent and non-paying borrowers; and accelerating the collection of receivables to avoid financial crisis.

Table 7 reveals that various loss financing measures were implemented to a Moderate Extent by the cooperatives. Table 8 shows that five out of eight measures of internal risk reduction were implemented to a Moderate Extent. These measures included providing employees with adequate insurance coverage as required by law, giving salaries to employees with the minimum required by law, mentoring selected employees to fill up future vacancies in technical positions, monitoring conflicts of business interest within the Board, the management, and the staff, and engaging in diversified cooperative services and activities.

Table 18 presents the program for redirection of operations control. This program is based on the database presented below.

Data Base: Table 10 shows that to a Moderate Extent, success indicators such as the increase of the profits of the cooperative by ten to fifteen percent, requiring an increase in assets by more than 25 percent as compared to those of the previous year, aiming for a reserve fund of more than ten percent of the net surplus, and requiring an increase in membership and clientele as compared to the previous year were implemented. Also implemented to a Moderate Extent were the measures of maintaining a past due rate of not more than twenty-five percent,

targeting an increase in capital by at least twenty-five percent as compared to the previous year, requiring a decrease in the operating cost of the cooperative by five percent as compared to the previous year, and maintaining a collection rate of at least 75 percent of the amounts due and collectible.

Table 11 shows that the measures of conducting a semi-annual performance evaluation of employees and monitoring the trend of the members' patronage to cooperative services were implemented to a Moderate Extent.

Table 12 reveals that the measures of proposing sanctions for directors and officers who neglect their duties, imposing penalties for non-attendance in membership meetings, and suggesting ways of terminating directors and officers whose pecuniary interests are in conflict with their duties toward the cooperative were implemented to a Moderate Extent.

Conclusions

Based on the findings of the study, the researcher concludes that while the institutional member cooperatives of the Zamboanga del Norte Cooperative Bank operated successfully, redirections in their implementation of corporate governance measures, risk management systems, and operations control practices were needed to be effective in rendering cooperative services to their members.

Recommendations

In the context of the findings of the study, the researcher recommends:

1. That the development program entitled "Cooperatives for the Revitalization of Economic Endeavor for Development (CREED) be adopted for implementation.
2. That for the purpose of expanding membership in the cooperatives, the directors and officers should wage a massive campaign in their respective institutions.
3. That the directors and officers of the institutional members of the Zamboanga del Norte Cooperative Bank attend seminars on the implementation of administrative policies and procedures in the organization.
4. That the institutional member cooperatives write, publish, and issue a manual for employees in order to guide the cooperatives toward better operations.
5. That the institutional member cooperatives maintain adequate reserve funds for sustainability in case of losses in operations.

Further recommendations. Topics that future researchers may consider for future study are recommended. They are the following:

1. Community Organizations, Cooperativism, and Community Action in Dipolog City: Bases for a Development Program.
2. Profitability, Job Generation Capabilities and Financial Management Strategies of the Cooperatives of Zamboanga del Norte: Proposals for Enrichment.
3. Customer Relations and Adjustments of Service Features to Cultural Diversity in the Zamboanga del Norte Cooperative Bank: Bases for Proposals to the Management.

Compliance with Ethical Standards

The author(s) have stated that they have no potential conflicts of interest regarding the research, authorship, and/or publication of this article. The authors accomplished this study in compliance with the research ethics protocol. Informed consent was given to the respondents before the research instrument was distributed. The data were treated with the utmost confidentiality.

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CUSTOMER PROFILE AND THE ANALYSIS OF LOAN PRODUCTS AND SERVICES OFFERED BY UNIVERSAL BANKS IN CALBAYOG CITY, SAMAR

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ABSTRACT

This study investigates the customer profiles and the demand for loan products and services provided by universal banks in Calbayog City, Samar. As a significant component of the Philippine banking sector, universal banks offer a wide array of financial services, making them integral to the nation's economic growth. In employing a descriptive correlational research design, the study aimed to analyze the relationship between customer profiles—including age, sex, civil status, educational attainment, occupation, employer, monthly salary, and banking duration—and their preferences for various loan products and services. Data was collected from a purposively sampled population of 250 bank customers, using a researcher-made questionnaire, and was analyzed using statistical methods such as ANOVA and Pearson's correlation. The findings revealed that age, income, and transaction history with the bank are significant factors influencing customers' demand for specific loan services. Middle-aged, higher- income earners showed a preference for car loans with competitive interest rates, while long-term customers and married individuals were more inclined towards housing loans that offer stability and security. Business loans were primarily demanded by self- employed individuals, highlighting the need for personalized financial solutions. The study suggests that universal banks should tailor their marketing strategies and enhance digital services to cater to the diverse needs of their clientele. Recommendations for future research include expanding demographic scope and assessing the impact of digital banking on traditional service demand.

Keywords: *Universal banks, customer profile, loan products, loan services, marketing strategies*

INTRODUCTION

The banking sector is very important in driving the growth of economies as it offers key monetary services to all areas of the economy. For a bank to remain viable and successful over time, it must understand what its customers want and need so that it can respond through development of focused plans intended at improving levels clients' contentment while staying competitive. This paper examines the part played by universal banks that are now seen as crucial players in enhancing banking sector performance due to economies of scale and income diversification (Dayag, 2019).

Universal banks offer a comprehensive range of financial services, including retail, commercial, and investment services. This broad spectrum of services enables these banks to diversify risks and capitalize on economies of scope, particularly in information management (Akiyoshi, 2019). Such strategies are believed to enhance returns and create high-quality assets, safeguarding the interests of stakeholders in the banking industry (Dayag, 2019).

The correlation between the growth of universal banking and economic development has been a subject of interest. For instance, Dayag (2019) explored this relationship in the Philippines, highlighting how banks foster economic growth by facilitating business creation and expansion. Efficient fund allocation by banks is crucial for sustainable economic growth. In the context of the Philippines, the top five universal banks, according to the Bangko Sentral ng Pilipinas' records, are key players in this dynamic economic landscape (Yap-Virtudazo, 2020).

However, the banking sector faces challenges due to the integration of modern information technology and changes in consumer behavior. Fan (2023) points out that these developments have impacted traditional retail operations in banks and intensified competition in the retail sector. Banks are now compelled to revise their retail business marketing strategies and adapt to the evolving financial demands of consumers (Fan, 2023).

This study aimed to analyze the loan products and services demanded by customers of universal banks in Calbayog City, Samar. It seeks to formulate marketing strategies that align with customer preferences, focusing on loans – one of the two key areas of bank operations (Nguyen et al., 2018). Banks play a crucial role as intermediaries, managing deposits (input) and providing loans (output), which are central to their operations (Gobat, 2023). Understanding customer demands in these areas is vital for banks to remain relevant and competitive.

In order to understand how clients prefer banking services and what they require, an analysis was done on client's socio-economic and demographic characteristics. The purpose of this research is to determine customer preference and behaviour concerning universal banks in Calbayog City and covers several dimensions thereof. The primary objectives were to assess the demand for loan products and services, analyze how these

demands vary across different customer profiles, and identify any significant relationships between customer profiles and their banking preferences.

Research Questions

The study aimed to determine the products and services demanded by the customers of universal banks in Calbayog City, Samar with the end goal of formulating marketing strategies for banks.

Specifically, it sought to answer the following questions:

What is the extent of the demanded products and services of universal banks in Calbayog for loans?

1. How do these demands vary across different customer profiles?
2. Are there any significant relationships between customer profiles and their banking preferences?
3. What marketing strategies can be made based on the findings of the study?

METHODOLOGY

The study adopted a descriptive research design with a focus on descriptive-quantitative methods, particularly descriptive correlational methods. This approach is suitable for identifying characteristics, frequencies, trends, correlations, and classifications of a specific subject. Descriptive-correlation methods, as detailed by Stangor and Walinga (2019), are used to collect data to assess the existence and strength of relationships between variables. In this study, this method was utilized to analyze the relationship between customers' profiles and their demands for products and services at universal banks in Calbayog City. The study targeted customers from Land Bank of the Philippines, Metropolitan Bank and Trust Company, Philippine National Bank, Rizal Commercial Banking Corporation, and United Coconut Planters Bank in Calbayog City. The distribution of respondents across these banks is shown in Table 1, with a total population size of 842 participants.

Table 1. Distribution of the Total Population of Respondents of the Study

Respondents	**f**	**%**
Land bank of the Philippines	169	20.07
Metropolitan Bank and Trust Company	169	20.07
Philippine National Bank	168	19.95
Rizal Commercial Banking Corp	168	19.95
United Coconut Planters Bank	168	19.95
TOTAL	**842**	**100.00**

Purposive sampling was employed to select 250 respondents, 50 from each bank, based on specific criteria (Creswell, 2014). These criteria included being a regular customer with at least one transaction every six months and maintaining an average daily

balance for a minimum of six months. A researcher-made questionnaire was used, comprising three parts: respondent profile, desired banking products and services, and issues encountered in transactions. The level of demand was gauged using a rating scale with both quantitative and qualitative values.

Validation of the Instrument

Content validation was conducted by a panel of experts at Northwest Samar State University, with the instrument undergoing revisions based on their feedback. Reliability was tested using Cronbach's Alpha, as shown in Table 2.

Table 2. Reliability Coefficient of Each Category of the Questionnaire

Category	Number of Items	Reliability Coefficient	Interpretation
Loan Products	4	0.80	Very Good Reliability
Loan Services	6	0.90	Excellent Reliability
Problems Encountered	13	0.79	Good Reliability
OVER-ALL	51	0.95	Excellent Reliability

Legend:
0.90 and above - Excellent Reliability
0.80 - 0.89 - Very Good Reliability
0.70 - 0.79 - Good Reliability
0.60 - 0.69 - Somewhat Low Reliability
0.50 - 0.59 - Needs Revision
0.49 and below - Questionable Items

Data was collected after obtaining approval from the bank managers. Data analysis utilized Pearson's correlation coefficient (r) and and chi-square. These methods were used to analyze respondent profiles, assess demand for banking products and services, and explore relationships between customer profiles and their banking preferences.

RESULTS

Extent of Demand of the Universal Bank Loan Products and Services

Table 3 represents the mean and standard deviation on the extent of demand of loan products by the customer in the universal bank in Calbayog City. Understanding the importance of these loan products in customers' daily lives is crucial for banks to tailor their offerings and meet customers' financial needs effectively. The two loan products that have high level of demands are the following products: Car Loan and Business Loan.

Table 3. Mean and Standard Deviation on the Extent of Demand of the Loan Products by the Customers in the Universal Banks in Calbayog City

Loan Products	Mean	Description	SD
Car Loan	2.58	High	0.71
Housing Loan	2.50	Moderate	0.73
Business Loan	2.52	High	0.68
1 to 1(Loan VS Deposit)	2.20	Moderate	0.82

Legend:
2.51 – 3.00 - High
1.51 – 2.50 - Moderate
1.00 – 1.50 - Low

Two loan products have a high mean, indicating a high level of demand: "Car Loan" and "Business Loan." The high mean suggests that these loan products are sought after by customers and play a significant role in fulfilling their financial goals and aspirations. Banks should ensure the availability and accessibility of these loan products while maintaining competitive interest rates and flexible repayment terms. Additionally, banks can offer personalized loan packages and efficient application processes to enhance customer satisfaction and attract a larger customer base (Ismail et. al., 2018).

Two loan products have a moderate mean, signifying a moderate level of demand: "Housing Loan" and "1 to 1 (Loan VS Deposit)." While these loan products may not have the same level of demand as the ones with a high mean, they still hold importance for customers in meeting their housing and financial needs. Banks can focus on streamlining the application and approval processes for housing loans, providing competitive interest rates, and offering tailored loan options to cater to customers' diverse requirements (Dwivedi et. al., 2021). Similarly, for the "1 to 1 (Loan VS Deposit)" product, banks can highlight the benefits and convenience of this integrated loan and deposit service to attract customers seeking a holistic financial solution.

Understanding the extent of demand for loan products enables banks to align their loan portfolios and strategies with customer preferences and market trends (Choi, 2018). In focusing on highly demanded loan products, banks can capitalize on the opportunities presented by customers' financial needs and drive loan growth. For loan products with moderate demand, banks can explore targeted marketing efforts, educational campaigns, and enhanced customer engagement to increase awareness and adoption (Chen, 2020).

Table 4. Mean and Standard Deviation on the Extent of Demand of the Loan Services by the Customers in the Universal Banks in Calbayog City

Loan Services	Mean	Description	SD
Sale of Acquired Properties	2.49	Moderate	0.80
Post Dated Check Warehousing	2.32	Moderate	0.85
Auto debit Facility	2.23	Moderate	0.82
Fire Insurance	2.27	Moderate	0.81
Car Insurance	2.24	Moderate	0.81
Domestic Bills Purchase	2.05	Moderate	0.90

All of the loan services listed in Table 4 have a moderate mean, indicating a moderate level of demand. This suggests that customers perceive these loan services as valuable and beneficial to their financial needs, although they may not have the same level of demand as services categorized as high. Banks can capitalize on this moderate demand by emphasizing the unique features and advantages of these loan services to attract more customers and enhance their overall banking experience (Chen, 2020).

The loan service "Sale of Acquired Properties" has a moderate mean, indicating that customers find value in this service, potentially for investment or property acquisition purposes. Banks can enhance their marketing efforts by providing comprehensive property listings, facilitating smooth transactions, and offering competitive financing options to cater to customers interested in this loan service (Fan, 2023).

"Post Dated Check Warehousing" and "Auto Debit Facility" also have a moderate mean, suggesting that customers value the convenience and efficiency of these services. Banks can focus on promoting the benefits of these services, such as streamlining payment processes, ensuring timely transactions, and reducing administrative burdens for customers. In highlighting the ease and reliability of these services, banks can attract more customers and differentiate themselves from competitors (Dwivedi et. al., 2021).

The loan services "Fire Insurance," "Car Insurance," and "Domestic Bills Purchase" also exhibit a moderate level of demand. These services are important for customers seeking insurance coverage for their properties, vehicles, and managing their domestic bill payments (Ramasamy, 2020). Banks can collaborate with reputable insurance providers to offer comprehensive insurance packages, competitive premiums, and hassle-free claims processes. Additionally, banks can develop user-friendly platforms and systems to facilitate convenient bill payments, ensuring a seamless banking experience for customers.

Analyzing the level of demand for loan services enables banks to fine-tune their service portfolio, pinpoint areas requiring enhancement, and improve overall customer satisfaction. In directing their attention to loan services with a moderate level of demand, banks can customize their approaches and allocate resources to deliver outstanding customer experiences. This entails optimizing operational processes, furnishing

customers with informative materials, and harnessing technology to augment accessibility and convenience (Reznik et. al., 2021). Consequently, banks can strengthen their competitive advantage by providing valuable loan services, fostering customer loyalty, and driving sustainable growth (Enad & Gerinda, 2022).

Test of Significant Difference on the Demand on Loan Products and Services of the Customers in the Universal Banks of Calbayog City

Table 5. Significant Difference on the Demand on Loan Services of the Customers in the Universal Banks of Calbayog City

Customer Profile	Car Loan (Demand)	Housing Loan (Demand)	Business Loan (Demand)	1 to 1 (Loan VS Deposit) (Demand)
Age	F = 5.973**	F = 6.448**	F = 7.948**	F = 6.933**
	df = 3, 164	df = 3, 169	df = 3, 152	df = 3, 132
	p = 0.001	p < 0.001	p < 0.001	p < 0.001
Sex	F = 1.746ns	F = 0.973ns	F = 0.801ns	F = 1.747ns
	df = 172	df = 177	df = 165	df = 138
	p = 0.083	p = 0.332	p = 0.424	p = 0.083
Civil Status (CS)	F = 1.783ns	F = 0.705ns	F = 0.907ns	F = 1.028ns
	df = 3, 168	df = 3, 173	df = 3, 162	df = 3, 136
	p = 0.152	p = 0.55	p = 0.439	p = 0.382
Highest Educational Attainment (HEA)	F = -2.730**	F = -0.872ns	F = -0.584ns	F = -2.632*
	df = 154	df = 161	df = 154	df = 125
	p = 0.007	p = 0.384	p = 0.56	p = 0.01
Occupation	F = 3.548**	F = 1.083ns	F = 1.030ns	F = 1.507ns
	df = 5, 164	df = 5, 169	df = 5, 157	df = 5, 131
	p = 0.005	p = 0.372	p = 0.402	p = 0.192
Employer	F = 6.699**	F = 2.981*	F = 4.060**	F = 2.325*
	df = 4, 167	df = 4, 173	df = 4, 160	df = 5, 134
	p < 0.001	p = 0.021	p = 0.004	p = 0.046
Monthly Salary	F = 5.542**	F = 5.026**	F = 5.502**	F = 6.708**
	df = 4, 167	df = 4, 172	df = 4, 161	df = 4, 135
	p < 0.001	p = 0.001	p < 0.001	p < 0.001
Occupation	F = 3.548**	F = 1.083ns	F = 1.030ns	F = 1.507ns
	df = 5, 164	df = 5, 169	df = 5, 157	df = 5, 131
Number of Years Transacting with the Bank	F = 2.266ns	F = 4.094**	F = 1.646ns	F = 1.031ns
	df = 4, 159	df = 4, 163	df = 4, 152	df = 4, 126
	p = 0.064	p = 0.003	p = 0.166	p = 0.394

Legend:

** - Highly Significant at 0.05 level
* - Significant at 0.05
level ns - Not Significant

All listed loan products including "Car Loan," "Housing Loan," "Business Loan," and "1 to 1 (Loan VS Deposit)" showed highly significant differences in demand based on monthly salary. This indicates that customers' monthly salary levels significantly impact their preferences and demand for different loan products. The "Housing Loan" was the only loan product that exhibited highly significant differences based on the number of years transacting, suggesting that customers' preferences for housing loans evolve as their relationship with the bank matures. However, other loan products such as "Car Loan," "Business Loan," and "1 to 1 (Loan VS Deposit)" did not show significant differences in demand based on the number of years transacting.

Particularly, the strong correlation between monthly salary and loan demand across all products indicates that financial capacity plays a pivotal role in customers' borrowing behaviors. This finding aligns with Lyons et. al. (2019), who found that income levels significantly influence loan uptake, as higher-income individuals are more likely to invest and seek financial leverage. Additionally, the significant relationship between the duration of a banking relationship and the demand for housing loans underscores the importance of customer loyalty and long-term engagement for more substantial financial commitments. This observation is supported by Sani et. al. (2022), who noted that trust built over time with a financial institution significantly affects customers' willingness to engage in long-term loan services. The absence of a similar trend for other loan types may suggest that such products are more influenced by immediate financial needs rather than the depth of the banking relationship, a notion that Kenttä et. al. (2022) suggests in their study on consumer borrowing patterns. These findings underscore the necessity for banks to tailor their marketing and customer service strategies according to the diverse financial states and transaction histories of their clientele, ensuring that the right products are offered to the right customers at the right time.

Table 8. Significant Difference on the Demand on Loan Services of the Customers in the Universal Banks of Calbayog City

Customer Profile	Loan Services	Sale of Acquired Properties	Post Dated Check Warehousing	Auto debit Facility	Fire Insurance	Car Insurance	Domestic Bills Purchase
Age	F-value	5.361**	7.800**	11.642**	7.648**	1.917ns	5.615**
	df	3, 153	3, 149	3, 144	3, 133	3, 132	3, 109
	p-value	0.002	0	0	0	0.13	0.001
Sex	F-value	0.908ns	0.775ns	1.412ns	1.529ns	-0.671ns	0.771ns
	df	160	155	151	140	140	114

	p-value	0.365	0.44	0.16	0.128	0.503	0.442
CS	F-value	2.981*	1.410ns	0.715ns	0.306ns	0.394ns	0.369ns
	df	3, 158	3, 153	3, 148	3, 138	3, 138	3, 112
	p-value	0.033	0.242	0.544	0.821	0.757	0.776
HEA	F-value	-2.741**	-1.499ns	-0.987ns	-1.176ns	-0.493ns	-0.171ns
	df	146	142	138	129	128	107
	p-value	0.007	0.136	0.325	0.242	0.623	0.865
Occupation	F-value	2.732*	0.910ns	0.510ns	1.037ns	1.121ns	0.732ns
	df	4, 154	5, 148	5, 144	5, 133	5,133	5107
	p-value	0.031	0.476	0.768	0.399	0.352	0.601
Employer	F-value	2.938*	3.034*	3.775**	2.602*	3.620**	1.061ns
	df	5, 156	5, 151	5, 147	5, 136	5, 136	5, 110
	p-value	0.015	0.012	0.003	0.028	0.004	0.386
Monthly Salary	F-value	5.263**	6.190**	13.139**	7.127**	2.438*	5.016**
	df	4, 157	4, 152	4, 148	4, 136	4, 136	4, 111
	p-value	0.001	0	0	0	0.05	0.001
Number of Years Transacting with the Bank	F-value	2.895*	2.725*	4.857**	4.011**	2.029ns	4.153**
	df	4149	4143	4140	4129	429	4104
	p-value	0.024	0.032	0.001	0.004	0.094	0.004

In terms of loan services, significant differences based on the number of years transacting were observed for "Auto Debit Facility," "Fire Insurance," "Sale of Acquired Properties," and "Post Dated Check Warehousing." This indicates that as customers engage with the bank for a longer period, their preferences for these loan services evolve. However, "Car Insurance" did not exhibit significant differences in demand based on the number of years transacting, suggesting that customers' preferences for this service remain relatively stable.

The results outlined in Table 8 highlight a discernible pattern wherein the duration of the customer's relationship with the bank directly influences the demand for certain

loan services, such as "Auto Debit Facility," "Fire Insurance," "Sale of Acquired Properties," and "Post Dated Check Warehousing." This tendency may reflect a growing confidence and familiarity with the bank's offerings, or an increased appreciation for the convenience and security these services provide as reported in studies by Jain et. al. (2023). These findings could imply that long-term customers develop a more sophisticated understanding of their financial needs and the bank's capacity to fulfill them, echoing the sentiments found Albarq's (2023) research on consumer-bank relationships. On the other hand, the stable demand for "Car Insurance" regardless of the transaction history with the bank could indicate that the need for this service is perceived as fundamental and immediate, similar to the observations made by Meral & Sener (2022) in their study on insurance product uptake. The implications of these results are significant for banks, as they suggest a need to develop dynamic marketing strategies and customer service approaches that evolve with the customer's tenure, leveraging insights from both behavioral finance and long-term relationship management as supported by Gonu et al. (2023).

DISCUSSIONS

Marketing Strategies for Loan Products and Services Based on the Findings

Table 9 presents tailored marketing strategies for a range of loan products and services offered by Universal Banks in Calbayog City, designed to meet the specific needs of various target demographics based on the empirical findings of the study.

Table 9. Marketing Strategies for Loan Products and Services in Universal Banks of Calbayog City

Loan Product/Service	Target Demographic	Marketing Strategy
Car Loan	Middle-aged, higher income earners	• Highlight competitive interest rates, flexible repayment plans • Use digital marketing to showcase ease of application and approval processes.
Housing Loan	Long-term bank customers, married individuals	• Emphasize the stability and security of owning a home. • Offer tailored loan options and efficient processing for existing customers.
Business Loan	Self-employed, business owners	• Showcase success stories of businesses that benefited from loans. • Provide personalized financial advice and support.

1 to 1 (Loan VS Deposit)	Customers with consistent banking relations	• Promote as a comprehensive financial management tool. • Highlight benefits for customers with regular transactions and deposits.
Sale of Acquired Properties	Investment-focused customers	• Use targeted advertising to showcase available properties. • Offer seminars or webinars on the benefits of property investment.
Post Dated Check Warehousing	Customers with substantial transactions	• Create educational content on managing financial obligations and cash flow. • Offer demonstrations of how warehousing can simplify business transactions.
Auto Debit Facility	Busy professionals	• Focus on the convenience and time-saving aspects. • Use email marketing and online platforms to explain the process and benefits.
Fire Insurance and Car Insurance	Loan customers, property and vehicle owners	• Bundle insurance with relevant loans. • Provide clear information on coverage benefits and claim processes. • Use customer testimonials to build trust.
Domestic Bill Purchase	High-balance account holders	• Personalized outreach to high-value customers to explain benefits. • Use case studies to demonstrate how it can aid in financial management.

Conclusions

The study has demonstrated that Universal Banks in Calbayog City have a diverse customer base with distinct demands for loan products and services. Middle-aged, higher- income earners are drawn to competitive interest rates and flexible repayment options for car loans, while long-term bank customers and married individuals seek stability and security in housing loans. Business loans are popular among self-employed individuals, who value personalized financial advice and success stories from their peers. The

demand for the "1 to 1 (Loan VS Deposit)" service underscores the importance of comprehensive financial management tools for customers with consistent banking relations. Investment-focused customers are interested in the sale of acquired properties, and customers with substantial transactions benefit from services like Post Dated Check Warehousing and Auto Debit Facility. Insurance products are crucial for loan customers who seek to protect their assets, whereas high-balance account holders show a preference for services that aid in sophisticated financial management. Banks may continue to tailor their product offerings and marketing strategies to the needs of their varied customer profiles, emphasizing the benefits aligned with their financial behaviors and preferences.

Recommendations

To address the study's limitations, further research should explore a broader demographic to confirm these findings across different regions. Additionally, future studies could investigate the impact of digital banking trends on customer preferences and the demand for traditional banking services. For practical applications, banks are advised to invest in customer education programs to enhance financial literacy, particularly among customers new to banking services. This could improve the uptake of more complex banking products and services. Furthermore, banks should consider enhancing their digital platforms to meet the growing demand for convenient and rapid banking transactions. Finally, it is recommended that future studies examine the long- term impacts of these marketing strategies on customer satisfaction and bank performance, providing a more comprehensive understanding of the effectiveness of tailored marketing approaches in the banking sector.

Compliance with Ethical Standards

This research adhered to strict ethical standards to ensure the integrity of the study and the welfare of the participants. Approval for the study was obtained from the ethics review board of Northwest Samar State University. All participants provided informed consent before participating in the study, with assurances of confidentiality and anonymity of their responses. The research design and methods were conducted in accordance with established ethical guidelines, ensuring that no harm came to the participants and that their rights and dignity were respected throughout the research process.

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DETERMINING THE EFFECTIVENESS OF THE VIRTUAL GRAMMAR ASSISTANT 'GRAMMARLY' ON IMPROVING WRITING SKILLS

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ABSTRACT

This study focused on the effectiveness of a virtual grammar assistant in improving writing skills among students selected from a higher educational institution residing in Pampanga, Philippines. Forty senior high school students from Grades 11 to 12 were selected using the purposive sampling technique based on the results of the survey. The result of this study will be beneficial to students, teachers, school administrators, curriculum planners, and future researchers. The study employed a quantitative approach. To get the average or mean of all the data, divide the total number of figures by the total number of figures in the collection after obtaining the data set. The collected data was tallied, manually processed, and used on a computer to determine the exact outcome. Data were gathered, totaled, and examined. Students are strengthening their writing abilities, particularly with regard to following correct English grammar, which is an essential component of their education as they look for methods to improve their academic achievement. They provide students with an invaluable resource to improve their writing abilities, and virtual grammar is more helpful for the students. These assistants analyze and provide real-time feedback on grammar usage, sentence construction, and paragraph coherence. The study utilizes a descriptive research design to provide objective and measurable insights into the effectiveness of virtual grammar assistance in enhancing writing skills.

Keywords: *Virtual Grammar Assistant, Writing Skills, Senior High School, Language, Learning*

INTRODUCTION

In today's digital age, effective communication through writing is paramount. Whether in academic, professional, or personal contexts, the ability to convey ideas with clarity and precision is a valuable skill. However, many individuals struggle with grammar and writing conventions, hindering their ability to effectively communicate. The advent of virtual grammar assistants, powered by artificial intelligence, promises to be a transformative tool in addressing these challenges. As the internet is around the world, virtual grammar assistant is now prevalent to the students as they are benefited from this because it gives assistance to them on their writing activities, however despite how helpful this is, there is still a problem that needs to be tackled. In the middle of the growth of virtual grammar assistance, it shows that students are the most benefited users of all the users.

The use of technology in education, according to Gilakjani & Sabouri (2014), has changed teachers' perceptions of their ability to be innovative in the teaching-learning process. Technology can help teachers in EFL classes assist the teaching-learning process and boost students' interest in the material. Additionally, technology has made it possible for people to develop their language abilities, including English. Due to their access to a plethora of knowledge, students may utilize technology to influence their learning in ways that instructors cannot. Additionally, by using technology to look for language exercises, children may advance their language abilities. One of the linguistic abilities that technology may help with is writing.

Digital technologies are having a variety of effects on students' writing and are also proving to be useful instructional tools for middle and high school students who are beginning to write, according to a survey of 2,462 AP and National Writing Project (NWP) instructors. Teachers contend that digital technologies, including text messaging, social networking sites, and mobile phones, as well as the internet, foster kids' creative and personal expression. Moreover, they also contribute to increasing the potential audience for their written work and promoting more frequent writing compared to previous generations, across a range of different formats (Purcell et al. 2013).

The rise of virtual grammar assistants over the past decade, virtual grammar assistants have proliferated in various forms (Babina et.al 2023). These tools harness the power of AI and natural language processing to identify and rectify grammatical errors, spelling mistakes, and stylistic issues. Their availability in word processors, web browsers, and standalone applications has made them accessible to a wide audience. The convenience and ubiquity of these tools have led to increased interest in their potential impact on improving writing skills. Majority of the students worldwide have relied on different grammar assistant to enhance their writing skills and proficiency in communicating through written messages.

Effective writing means a lot in terms of communication. It elevates the connectioin between people across the globe through a wide series of connectivity. As specified by

Neikirk (2023), the importance of effective writing skills are fundamental to academic success, workplace success, and beyond, because being able to write well is essential for effectively and accurately communicating thoughts, ideas, and information.Clear and error-free writing not only conveys ideas persuasively but also enhances the credibility of the writer. In contrast, poor writing can lead to misunderstandings, miscommunication, and missed opportunities. The implications of subpar writing extend to academic grades, professional advancement, and even personal relationships. Therefore, finding effective ways to bolster these skills is of paramount importance. As per Aydin (2018) employing a grammar checker significantly enhanced the writing abilities of EFL students. This development was particularly noticeable for learners with poorer beginning writing proficiency. Accordingly, using a virtual grammar aid can help you improve the writing abilities of EFL students, particularly those with less developed writing skills. Furthermore, it's critical to employ virtual grammar combined with additional writing guidelines, including comments from professors or peers. By the means of that students can ensure that their work are more improved and enhanced.

As per Dolgunsöz (2018), IVR technology is being used to assist EFL learners in overcoming their challenges with their language skills, particularly their writing skills. Previous research indicated that the use of an immersion tool would enhance students' written performance.In today’s era there a multivariate of sophisticated grammar checking tools which can aid students towards the development of their work. Another testament by Hee-Joo Im (2021) on their study have investigated the usage of online grammar checkers in English writing lessons and to recommend when they could be appropriate. 35 first-year students participated in the study, which was carried out at the University in Chungcheong-do. Pre and post-grammar tests, surveys, and learning journals were all gathered and examined as data sources. Following are the findings of this investigation. The online grammar checker was first discovered to be successful in English writing classes based on the outcomes of the English grammar test. The latter can detect kinds of typing errors that also help us. This will also help us to improve our readability, using an online grammar checker for any activity that we are going to do that can be improved. This intensify the claim that the use of virtual grammar assistant can help towards the improvement of students grammar and communication skills as found out by numerous researches across the globe.

Another claim by Huang et al. 2020, the use of Grammarly in writing lessons is a good strategy for helping EFL students improve their writing abilities and for assisting teachers in lightening their workload. As Grammarly is one of the famous virtual grammar assistants, every student uses this tool for their written outputs to make their grammar correct and less mistakes. In addition, this discusses how can grammarly help the students with their writing abilities and for the teacher to make their work easier. To sum up the discussion, Grammarly is a potential virtual grammar assistant to assist students and teachers with their writing activities or outputs. In accordance with Hyejin (2018), a grammar checker might be a helpful educational tool for writing low-level L2 learners using grammar. Advanced writing ability is a crucial need for pupils to demonstrate their understanding of contemporary concerns and clarity. It is also found that students who used an online grammar checker made significantly fewer grammatical errors in their

writing. Additionally, the latter found that students generally had positive perceptions of the grammar checker which strengthen the claim of the researchers in understanding the efficacy of the virtual grammar assistant Grammarly in enhancing the writing capacity of the students. Every student may benefit from using the virtual grammar assistant to improve their writing abilities and to identify and correct their grammatical and usage problems. Additionally, the use of a virtual grammar helper has a significant positive effect on all learners since it enables them to produce better writing as well as to fill in any writing gaps.

According to Maharani et al. (2023), writing is a difficult skill. It is supported by claims that writing is a difficult endeavor that requires a great lot of cognitive and language skills. Argues that the ability to recognize, comprehend, and explain an idea in a paragraph or essay is the most fundamental writing skill that pupils can have the capacity to perceive, analyze, and effectively communicate ideas in an organized format, such as a paragraph or essay, is critical for writers. This skill requires not just knowledge of the subject matter but also the ability to arrange thoughts and communicate them coherently to an audience. Although, writing is a bit difficult, it can be enhanced and developed through a wide series of experiences and trainings.Given the fact that the use of grammar assistant could also aid.

The primary objective of this research is to critically evaluate the effectiveness of virtual grammar assistants in improving writing skills. To achieve this goal, the researchers conducted a comprehensive review of existing literature on the topic, examining both the theoretical underpinnings and practical applications of these tools. Additionally, the researchers designed and executed empirical studies, gathering data to assess the impact of virtual grammar assistants on various aspects of writing, including grammar, syntax, and overall writing quality. This paper aims to explore and evaluate the effectiveness of virtual grammar assistants in enhancing writing skills, shedding light on their potential to revolutionize the way we approach written communication.

Impact of Virtual Grammar Assistant

In the present era, where technology has revolutionized every aspect of our lives, there are several remarkable resources that have emerged. Among these, one stands out as an invaluable tool for individuals facing challenges in writing English the virtual grammar assistant. This innovative digital tool has been specifically designed to address the needs of those who struggle with the intricacies of English grammar. The virtual grammar assistant operates by generating grammatically correct sentences based on the user's chosen topic. By harnessing the power of sophisticated algorithms, this tool analyzes the input and produces meticulously constructed sentences, empowering users to enhance their writing skills and overcome any obstacles they may encounter in expressing themselves in English for the knowledgeable audience seeking to refine their linguistic proficiency, this virtual grammar assistant serves as an indispensable aid it offers a seamless solution that enables users to elevate their command over the English language whether it is for academic, professional, or personal purposes, the usage of this tool guarantees accurate and effective communication (Xue et al., 2021).

As per Elbashir et al. (2022), in today's fast-paced and technology-driven world, students are constantly seeking ways to enhance their academic performance one crucial aspect of their education is improving their writing skills, especially when it comes to adhering to proper English grammar rules this is where virtual grammar assistants come into play, offering students a valuable tool to elevate their writing prowess using virtual grammar assistants can be a game-changer, particularly for students who aspire to excel in their academic endeavors These intelligent tools serve as reliable companions, walking alongside students throughout their writing journey. By harnessing the power of artificial intelligence, these assistants analyze and provide real-time feedback on grammar usage, sentence construction, and paragraph coherence. By conducting research on the impact of virtual grammar AI tools on students, it has been observed that their writing skills have seen a significant improvement as a result of utilizing these virtual assistants. Virtual grammar assistants have emerged as a valuable tool to enhance students' skills and precision in written communication, proving beneficial in their journey toward proficiency as stated by Awalin et al (2023), virtual grammar has become a valuable educational resource for those seeking to enhance their proficiency in English language and grammar, particularly in the era of internet and mobile advancements.

Research Questions

The general purpose of this study is to determine the effectiveness of Virtual Grammar Assistants in developing the writing skills of the students. Specifically, it seeks to answer the following questions:

1. What is the effect of virtual grammar assistance to the student?
2. How can virtual grammar assistants help the students with their writing skills?
3. How may the use of a virtual grammar assistant be described?
4. What are the potential problems and ethical concerns while using virtual grammar assistants in education and language learning?

METHODOLOGY

This study employed a quantitative approach to investigate the impact of virtual grammar assistance tools. By quantifying improvements in writing skills such as grammar, syntax, and overall composition, the research aims to provide statistically significant evidence of the effectiveness of virtual grammar assistance tools specifically Grammarly. Additionally, demographic variables and usage patterns will be analysed to identify any correlations or trends that may further enhance our understanding of how these tools impact different subgroups. Descriptive research design seeks to provide objective and measurable insights into the role of virtual grammar assistance in enhancing writing skills, offering valuable data for educators and writers alike. In terms of the respondents of this study, the researchers selected from a higher educational institution residing in Pampanga Philippines applicable to all Senior High School students from Grade 11 to

Grade 12 as their respondents. The respondents who join the study are those who can determine the effectiveness of a virtual grammar assistant on improving their writing skills. As well as those who can share their experience using it. Respondents are eligible to have knowledge and experience. The data needed for the study are gathered by the researchers via survey questions. In order for the respondents to respond, the researchers created a survey questionnaire based on the research questions. The survey questionnaire is used to gather demographic data as well as opinions and experiences relating to the research topic. Survey questionnaire is answerable with four option likert scale. In order to ensure survey respondents, the researchers make sure that the survey questions are clear and fair.

In this study, the sampling method known as purposive sampling is employed to refer to the deliberate selection of your respondents. As for Campbell et al. (2020), purposive sampling refers to the selection of participants with particular traits and data to address the study question, aim, and objectives throughout an investigation. The respondents are carefully selected in accordance with the needs of the study. The researchers float the instrument to the study's respondents during the data gathering phase. In addition, researchers conduct or discuss the instructions and to make sure that all the respondents will answer and are knowledgeable in Determining the effectiveness of Virtual Grammar Assistant on improving writing skills. This assessment will have 40 respondents, the researcher will make sure that all the respondents are not forced to answer the tool that we distributed to them. The respondents will have a chance to answer the survey questionnaire of their choice, in determining the respondents we make 20-item survey questions, the researcher will give the respondents enough time for them to answer the questions and analyze their answers. The respondents responses are analyzed using statistical tools included in descriptive statistics. According to Hayes et.al (2023), to find the mean, or average, sum up all the figures in the data set, then divide the total number of figures by the total number of figures in the collection. The information gathered was tabulated and processed manually and with a computer to determine the precise interpretation of the result. data were collected, tabulated, and analyzed. Those who often employ virtual grammar assistance to better their writing work are identified using descriptive statistics to observe the subject if there is a significant change when they used (virtual grammar assistant) and based on their demographic characteristics (sex, age, race, education), for which categorical variables the researchers applied a descriptive statistics.

RESULTS AND DISCUSSION

Demographic Profile

Sex

The respondents sex under their demographic profile: 16 of them are male and 24 of them are female. The majority of respondents are female, with 60 percent over the whole percentage, while the male respondents are 40 percent over 100 percent. 60 percent females and 40 percent male are equivalent to 100 percent.

Age

The age range is 16 years old, 17 years old, 18 years old, and 19 years old and older. 37.5 percent of the whole population is under 16 years old, which consists of 15 respondents, while half of the population, or 50 percent of 100, is under 17 years old, which consists of 20 respondents. On the other side, 5 percent of the population is 18 years old, which consists of 2 respondents, and the remaining 7.5 percent is 19 years old and older, which consists of 3 respondents. The majority of the respondents are 17 years old, the sum of all the percentages is equal to 100 percent.

Grade/Year Level

The grade or year level of the respondents involved in this study are senior high school grade 11 and grade 12 students. The 20 respondents out of 40 are grade 11 students, which is 50 percent of the population, while the other 20 respondents are grade 12 students, which is also half of 100 percent. The respondents grade or year level is equally divided, which is 100 percent in the general population.

Academic Strand

The respondents academic strands are Accountancy, Business, and Management (ABM), General Academic Strand (GAS), Humanities and Social Sciences (HUMSS), and Science, Technology, Engineering, and Mathematics (STEM). The 25 percent, or 10 respondents, are under the ABM Strand; the same is true for the GAS, which also has 25 percent and 10 respondents. The students in the HUMSS strand have 25 percent, or 10 respondents, as well. On the other side, the STEM strand also has 25 percent, or 10 respondents. The respondents' strands are equally divided, which sums up to 100 percent in total.

Table 1. Frequency Distribution and Percentage of the Respondents table

Demographic Profile		Frequency	%
Sex			
	Male	16	40
	Female	24	60
Age			
	16 y/o	15	37.5
	17 y/o	20	50
	18 y/o	2	5
	19 y/o and above	3	7.5
Grade/Year Level			
	11	20	50
	12	20	50
Academic Strand			
	ABM	10	25
	GAS	10	25
	HUMSS	10	25
	STEM	10	25

The Effectiveness of Virtual Grammar Assistant

Effect of virtual grammar assistance to the students

As per Fitria (2021), one of the hugely popular apps is Grammarly, however using this app has advantages and disadvantages. According to the data that the researchers gathered, an average of 2.02 disagreed that the virtual grammar assistant can improve writing skill, which means it has the lowest mean of all and can't really improve an individual writing skill. While an average of 3.30 strongly agreed that it helps to develop a written output. Respondents strongly agreed with an average of 3.42 that virtual grammar assistance has a good effect on academics, this shows that virtual grammar assistant has a good effect as this has the highest mean. Also, respondents agreed (3.05) this can enhance students' overall academic performances. The average of 3.18 agreed that virtual grammar assistance has a positive impact on students' confidence in their writing ability. The weighted mean is 2.99 agreed that virtual grammar assistants influence the students.

Virtual grammar assistance helps the student with their writing skills.

According to the AIContentfy (2023), with the article entitled "Revolutionizing Your Writing Process with AI Tools", they may aid with proofreading and editing, provide ideas for better word choices, strengthen sentence structure, and make suggestions for expanding vocabulary. In the data gathered by the researchers, an average of 3.35 strongly agreed that a virtual grammar assistant is helpful, this is totally strong as this has the highest mean and that concludes that these tools are helpful. Also, an average of 3.31 strongly agreed students think that there are differences between using these tools and their natural writing skills. With that, an average of 2.95 users agreed in favor of using this in their written outputs, this has the lowest meaning shows that users are not really in favor of using this. In addition, 3.22 on average agreed that these tools help the students

with their writing. An average of 3.05 agreed that presence of virtual grammar assistance offers substantial support to students striving to enhance their writing skills. The weighted mean 3.17, agreed that virtual grammar assistants help the students with their writing skills.

Use of virtual grammar assistant be described.

According to the AIContentfy (2023) with the article entitled “Discover the Benefits of using an Online Writing Assistant, you may drastically cut down on faults and blunders in your writing by using an online writing aid. With the average of 2.72, respondents agreed that virtual grammar assistants are usually needed by the students. With that, an average of 2.97 agreed that this is essential to the students. But with an average of 1.92, respondents disagreed that the virtual grammar assistant is only applicable to the students, respondents think that virtual grammar assistant also has a potential for others.
3.05 on an average, users of virtual grammar assistants agreed with its ability to enhance and proofreading capabilities, this has the highest mean, means that these tools have an ability to enhance and proofreading. With an average of 2.87, respondents agreed that the potential of virtual grammar assistants to reduce grammatical errors in documents strongly disagrees with the traditional proofreading methods. The weighted mean is 2.70, it shows that the use of virtual grammar assistant can be described.

Potential problems and ethical concerns while using virtual grammar assistants in education and language learning.

According to Teng & Yuen (2023), students can apparently complete a task with very little effort, which puts their capacity to develop critical thinking abilities at risk since it "leaves no room for the student to interpret and understand. Respondents agreed that virtual grammar assistance causes problems, with an average of 2.75. With an average of 2.62, respondents agreed that using these tools in education raises significant potential problems and ethical concern, these tools really don’t raise potential problems as some of the respondents are the only ones who agreed. 2.92 of an average, reveal that respondents agreed that integrating grammar assistants in education and language learning raises concerns about over reliance on technology, potentially hindering students' independent language skills development, most of the respondents agreed that these tools raise concerns, with that, this has the highest mean. Also, with an average of 2.73, the respondents agreed that virtual grammar assistance in education introduces potential ethical issues related to data privacy and the collection of student writing samples for analysis. Respondents agreed that virtual grammar assistants in language learning create a risk of devaluing human educators' roles potentially leading to decrease in the quality of language instruction, an average of 2.62, this discusses that virtual grammar assistants didn’t really create risk of devaluing human educators. The weighted mean is 2.72 and disclose that the respondents agreed that the virtual grammar assistance has potential problems and ethical concerns while using it in education and language learning.

The grand weighted mean is 2.89, a portion of the forty respondents concurred that using the online grammar checker helps with writing abilities

improvement.

Table 2. Descriptive Statistics

Effect of Virtual Grammar Assistance	*Mean*	*SD*	*Verbal Interpretation*
Effect of Virtual Grammar Assistant to the Students.			
1. Virtual Grammar Assistance can improve writing skills.	2.02	0.68	Disagree
2. Virtual Grammar Assistance help to assist to develop a written output.	3.30	0.64	Strongly Agree
3. Virtual Grammar Assistance has a good effect on academics.	3.42	0.54	Strongly Agree
4. Virtual Grammar Assistance enhances students' overall academic performances.	3.05	0.67	Agree
5. Virtual Grammar Assistance has a positive impact on students' confidence in their writing ability.	3.18	0.59	Agree
Weighted mean	2.99	0.62	Agree
Virtual Grammar Assistance helps the student with their writing skills.			
1. Virtual Grammar Assistance is helpful.	3.35	0.69	Strongly Agree
2. Students' think there's a difference between using virtual grammar assistance and their natural writing skills.	3.31	0.66	Strongly Agree
3. Users of virtual grammar assistance favor using this for their written output.	2.95	0.63	Agree
4. Virtual grammar assistance helps the students with their writing.	3.22	0.79	Agree
5. Presence of virtual grammar assistance offers substantial support to students striving to enhance their writing skills.	3.05	0.70	Agree
Weighted mean	3.17	0.69	Agree
Use of virtual grammar assistant be described.			
1. Students usually need to use a virtual grammar assistant.	2.72	0.77	Agree
2. Virtual Grammar Assistant is essential to students.	2.97	0.61	Agree
3. Virtual Grammar Assistant is only applicable to the students.	1.92	0.78	Disagree
4. Users of virtual grammar assistance agree with the ability to enhance proofreading capabilities.	3.05 2.87	0.55 0.67	Agree Agree
5. Potential of virtual grammar assistant to reduce grammatical errors in documents strongly disagree with the traditional proof reading methods.			
Weighted mean	2.70	0.67	Agree
Potential problems and ethical concerns while using virtual grammar assistants in education and language skills.			
1. Virtual Grammar Assistance causes problems.	2.75	0.76	Agree
2. Use of virtual grammar assistance in education raises significant potential problems and ethical concerns.	2.62	0.73	Agree
3. Integrating grammar assistants in education and language learning raises concerns about over reliance on technology potentially hindering students' in dependent language skills development.	2.92	0.72	Agree
4. Virtual Grammar Assistance in education introduces potential ethical issues related to data privacy and the collection of student writing samples for analysis.	2.73	0.76	Agree
5. Virtual Grammar Assistant in language learning creates a risk of devaluing human educators roles potentially leading to decrease in the quality of language instruction.	2.62	0.88	Agree
Weighted mean	2.72	0.77	Agree
Grand Weighted Mean	2.89	0.68	Agree

Conclusions

The following are the conclusions driven from the summary of the results.

1. Most of the respondents are female, consisting of 60 percent, while 40 percent are male. 20 respondents are 17 years old, which constitutes half of the total population, while the remaining 50 percent are under 16 years old, 18 years old, and 19 years old and older. The grade or year level of the respondents is between grade 11 and grade 12, which are equally divided. The academic strands of the

respondents are ABM, GAS, HUMSS, and STEM, which are also distributed fairly, with 25 percent per academic strand, for a total of 100 percent.

2. The respondents disagreed on the virtual grammar assistant's impact on writing skills (average 2.02) but strongly agreed on its effectiveness in developing written output (3.30). It also received strong affirmation for positively impacting academics (3.42) and enhancing overall academic performance (3.05). Agreement (3.18) was noted for its positive influence on students' confidence. The weighted mean of 2.99 indicates an overall agreement on the effect of virtual grammar assistants on students.

3. The respondents strongly agreed on its helpfulness (3.35 on average) and expressed a strong consensus (3.31 on average) about differences from natural writing skills. Users, on average (2.95), favored incorporating virtual grammar assistance in their written outputs. Respondents, on average (3.22), agreed that these tools effectively support students in writing, with an additional agreement (3.05 on average) that the presence of virtual grammar assistance substantially aids students in enhancing their writing skills. The weighted mean of 3.17 emphasizes the overall agreement that virtual grammar assistants significantly contribute to improving students' writing skills.

4. The results show that respondents generally agree on the importance of virtual grammar assistants, particularly for students (average rating 2.72). They emphasize the significance of these tools to students, receiving an average rating of 2.97. However, there is disagreement about the exclusivity of virtual grammar assistants to students, with an average rating of 1.92. Users agree (average rating 3.05) that these tools enhance proofreading capabilities. Respondents (average rating 2.87) recognize the potential of virtual grammar assistants to surpass traditional proofreading methods in reducing grammatical errors. The overall weighted mean of 2.70 indicates a positive view of using virtual grammar assistants.

5. Respondents' express agreement on problems, with an average rating of 2.75, and highlight significant concerns (avg. rating 2.62) in education. They also note worries about over-reliance on technology (avg. rating 2.92) and potential ethical issues related to data privacy (avg. rating 2.73). The risk of devaluing human educators' roles in language learning is acknowledged (avg. rating 2.62). The weighted mean of 2.72 reflects respondents' overall agreement on the challenges and ethical considerations of using virtual grammar assistance. The grand weighted mean is 2.89.

Recommendations

In consideration of the results, and conclusion, the following recommendations are suggested:

1. The virtual grammar assistant serves as a valuable tool for students, fostering confidence, motivation, and improved writing skills by identifying and correcting grammatical errors. It directs their focus on specific areas for grammar enhancement, contributing to overall writing growth.
2. Teachers benefit from online grammar assistance as it efficiently addresses basic errors, saving time on corrections. These tools provide immediate feedback, offer examples for language and punctuation, and enhance the quality of teaching materials. Integrating virtual grammar support simplifies instruction and nurtures students' independence in editing their own writing.
3. For school administrators, this study offers a basis to integrate virtual grammar assistants for composing professional communications. Clear and professional grammar in emails, announcements, and reports is crucial for interpreting and enforcing school policies, rules, and regulations.
4. Curriculum planners find value in the study results, as virtual grammar assistants contribute to improving grammar and writing skills. This enhancement can be passed on to educators and students, elevating the level of professionalism in papers and positively impacting the institution's reputation.
5. The study provides a foundation for future researchers, offering insights into the effectiveness of virtual grammar assistants. It serves as a reference point for further studies, fostering knowledge development in this specific area. Future researchers can build upon these findings to advance their understanding and share insights with subsequent studies.
6. The study can recommend it to future researchers. Future researchers can compare two different apps or websites, and these are Grammarly and Quill Bot. This comparison can help users identify which is more reliable to use and more accurate and helpful.

Compliance with Ethical Standards

This research strictly adheres to the ethical standards set by the institution and the body of knowledge. All information and data coming from the respondents are solely for academic purposes only. In line also with the Data Privacy Act of 2012, the researchers strictly preserved the anonymity and confidentiality of the respondents.

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DEVELOPMENT OF A MULTIDIMENSIONAL ASSESSMENT ON DEPRESSION FOR PARENTS

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ABSTRACT

This study presents the development of a tool aimed at assessing depression among parents, filling a crucial gap in mental health evaluation tools. Through meticulous research and analysis, the inventory was crafted to evaluate the cognitive, emotional, and behavioral manifestations of depression, capturing the condition's complexity in the parental context. Utilizing Cronbach's alpha, the study assessed the internal consistency and reliability of the inventory, yielding excellent reliability scores (0.904 for cognitive, 0.927 for emotional, and 0.923 for behavioral domains). These findings underscore the inventory's robustness and efficacy in consistently measuring parental depression. Additionally, the tool demonstrated stability, indicating each item's significant contribution to the overarching construct without adversely affecting the scale's reliability. The implications of this study are multifaceted, providing a reliable instrument that can be integrated into various settings for the early detection and intervention of parental depression. This advancement is pivotal in potentially mitigating the negative impact of parental depression on family dynamics. Recommendations emphasize the need for broader validation studies, the application of the inventory in diverse settings, and its incorporation into mental health and parental support programs. The study highlights the critical role of reliable, accessible, and culturally sensitive tools in understanding and supporting parents with depression, aiming to enhance mental health outcomes for families.

Keywords: *Parental depression, Depression inventory, Mental health assessment, Cronbach's alpha, Reliability, Emotional manifestations, Cognitive manifestations, Behavioral manifestations, Early detection*

INTRODUCTION

Depression among parents has emerged as a significant concern, particularly accentuated by the challenges brought on by the COVID-19 pandemic. Research spanning from the global context to specific insights from the Philippines underscores the profound impact of parental depression on both individual and familial well-being. Internationally, studies have sought to unravel the complex factors contributing to parental depression, including the stress of balancing work and family life, the isolation from lockdowns, and anxieties about health and economic uncertainties. For instance, Cameron et al. (2020) examined the heightened risk of depression among parents during the pandemic, emphasizing the need for accessible mental health services. Similarly, Racine et al. (2021) highlighted the disproportionate impact of pandemic-related stressors on mothers, pointing to the importance of targeted support. Further research by Silverio et al. (2021) explored the role of social support in mitigating depression effects among new parents, while Liu et al. (2021) investigated the long-term consequences of parental depression on child development. O'Connor et al. (2021) also provided insights into effective screening and intervention strategies.

In the Philippines, the mental health landscape for parents during the pandemic was explored by Hechanova et al. (2021), who revealed significant stressors that contribute to depressive symptoms and emphasizing the importance of support from the community and family. The synthesis of recent research on depression among parents, both globally and within the Philippines, illuminates a critical gap in mental health support and intervention strategies. Studies have highlighted the multifaceted nature of parental depression, exacerbated by the COVID-19 pandemic, revealing an urgent need for targeted mental health interventions and support systems. However, a recurring theme across these studies is the challenge of effectively identifying and assessing depression among parents, a crucial step towards providing timely and appropriate care. This challenge underscores the necessity of developing a comprehensive tool to assess parents' depression, tailored to capture the unique experiences and stressors faced by parents today contributing to depressive symptoms and the crucial role of community and family support. Additionally, Labrague (2021) examined the psychological impact of the pandemic on Filipino nurses, many of whom are parents, highlighting the dual burden of healthcare work and parenting responsibilities.

These studies collectively emphasize the complex and multifaceted nature of parental depression, drawing attention to the exacerbated challenges faced during the pandemic and the vital role of support systems and interventions. By examining the latest research, this introduction sets the stage for further exploration into effective strategies

for preventing and treating parental depression, with the ultimate goal of fostering healthier families and communities globally and within the Philippines.

Research Questions

The study aimed to identify the reliability and validity of the newly developed depression inventory in assessing depression among parents. Specifically, it sought answers to the following questions:

1. What is the level of reliability of the depression inventory in measuring the depression manifestations of parents in terms of:
   1.1. cognitive,
   1.2. emotional, and
   1.3. behavioral?
2. What recommendations may be forwarded for the improvement of the mental health of parents particularly in handling depression?

METHODOLOGY

Participants

The participants of this study were the parents of the enrolled students at the two HEIs of Cebu City. They consist of 192 males (27.54%) and 505 females (72.46%) with a mean age of 41.19. It was conducted on the day the respective institutions held a parents' workshop on mental health. The workshop was facilitated by a Registered Psychologist and was assisted by guidance counselors, principals, teachers, psychometricians, and psychology interns.

Procedure

The HEIs where the study was conducted, respectively, had workshops about mental health for their institutions. They were held on different dates. During the registration and ushering of the participants, the tool and instructions were given to them. They were informed of the option of wanting to answer the survey or not.

Guidance counselors, teachers, and psychology student interns were strategically assigned within the venue to assist the participants with their concerns or clarifications.

The researcher then prepared the inventory to identify the level of stress of the research participants. An informed consent form was stated at the bottom page of the instrument for the research participants to sign should they agree to participate in the research conducted. An appointment was set with the guidance counselors of the two participating HEIs of Cebu City. The questionnaires were given to each department for review and reproduction.

Before the start of the workshop, a one-hour ushering-in activity was done, where participants were given the instruments and instructions. Guidance counselors, teachers,

and psychology interns were strategically situated in the venue to assist at least 5-7 parents, making sure that someone would answer their questions or clarifications. Once the questionnaires were given to them, the consent forms were cut off and gathered, but they were placed separately to further keep the answers random and confidential.

All the questionnaires were then collated into one population. Each statement of the inventory and its corresponding answers were then tallied to produce their frequency and percentage in the population. The researcher then clustered the statements into tables that showed similarities in nature and labeled it with its respective theme.

Instrument

The Depression Inventory is a self-report tool used to gauge levels of depression of parents. A 4-point anchored scale is used to rate the frequency of each manifestation within a fourteen-day timeframe with 0 for Not at all, 1 for Less than half of the number of days in 2 weeks (1-6 days), 2 for More than half of the number of days in 2 weeks (7-13 days), and 3 for Always (Everyday). These constructs assessed various manifestations such as cognitive, emotional and behavioral.

Scoring

Each statement in the inventory is scored based on how strongly the manifestations were felt during a specific period. A score of 0 indicates that the manifestations were not felt at all, while a score of 3 indicates that they were felt every day. Total scores were summed up to get the mean score and were classified as either No, Low, Moderate, and High.

Content Validity of the Instrument

In the development of the inventory, the crucial role of content validity was highlighted, emphasizing its necessity for tests to comprehensively cover the constructs they are designed to for depression. This entails a detailed verification process, often requiring consensus among experts for thorough evaluation (Nikolopoulou, 2023). To ensure the assessment tool's relevance, clarity, and comprehensive coverage of the intended construct, an initial review of the items was conducted by experts in psychology, parenting, and psychometrics. Moreover, the qualitative phase of the study utilized a content analysis approach, incorporating semi-structured, in-depth interviews with three psychologists and two psychometrists, all with significant experience in working with parents within their psychological practice. This expert feedback proved instrumental in refining the inventory, guiding the revision, addition, and deletion of items to enhance the instrument's content validity. Such a process was pivotal in ensuring that the inventory accurately reflects the domain of depression among parents, thus making it a valid tool for assessing this specific psychological construct.

Pilot Testing

To ensure the questionnaire really captures what it's meant to, we tested a first version with a small group of 10 parents, split evenly between men and women. This test helped us see if the questions were clear and if the questionnaire was easy to use.

Data Treatment

To evaluate the internal consistency or reliability of the questionnaire items, Cronbach's alpha was employed. This method involves assessing the shared variance or covariance among the items within the instrument compared to the total variance observed. The underlying principle is that a higher covariance among the items, relative to the overall variance, signifies a reliable instrument. Essentially, Cronbach's alpha calculates the average of all possible split-half reliabilities, providing a standardized measure of agreement between the items on a scale from 0 to 1. Higher Cronbach's alpha values suggest a higher level of agreement among the items, reflecting consistency in participants' responses across a set of questions. This consistency is crucial for the development and evaluation of new survey instruments. A Cronbach's alpha threshold of
0.7 was established as a benchmark for sufficient consistency, indicating that the measure is reliable. While values around 0.7 are considered minimally acceptable, they are not ideal; conversely, excessively high values may suggest redundancy among the questions.

RESULTS

In order to assess the reliability of the statements in the inventory, it applied Cronbach's alpha as a key metric, which is still used in present studies (Amirrudin et al., 2020). This was used as it has been seen as a fundamental tool to evaluate internal consistency or reliability of the measurement scale employed within the research framework (Goforth, 2015). It aimed to gauge the interrelatedness of the items, showing its consistency to measure the expected construct.

Depression Inventory

Table 1.1 ***Cognitive Manifestation Statements Reliability Statistics (Cronbach Alpha)***

Frequentist Scale Reliability Statistics	
Estimate	**Cronbach's α**
Point estimate	0.904
95% CI lower bound	0.893
95% CI upper bound	0.915

Note. Of the observations, pairwise complete cases were used.

Frequentist Individual Item Reliability Statistics	
	If item dropped
Item	Cronbach's α
D5	0.896
D6	0.891
D7	0.907
D8	0.895
D9	0.896
D15	0.896
D20	0.895
D25	0.892
D27	0.890
D31	0.891

Table 1.1 shows the statistical reliability of the instrument in assessing the cognitive manifestations of depression among parents. The Cronbach's α, is 0.904, which is considered 'excellent.' This suggests that, overall, the items within the scale provide a consistent and dependable measure of cognitive manifestations. Furthermore, the 95% confidence interval (CI) for the scale's reliability spans from 0.893 to 0.915, indicating a high level of confidence in the consistency of the measurements obtained. Additionally, the individual item reliability statistics display the Cronbach's α values if each respective item were hypothetically excluded from the scale. The values for each question go from 0.890 to 0.907 which implies that even if we remove any one statement from the inventory, it won't make the tool much less reliable. So, the tool remains stable and reliable in measuring parental depression through cognitive manifestations. Items in this instrument to test this aspect included Statement 6 “I think people don’t mind my existence”, Statement 15 “I have thoughts that I would be better dead or hurt myself in some way”, and Statement 31 “Negative thoughts kept haunting me especially when I’m alone or at night”. These were seen as relevant in testing as they were also findings in other literature.

Table 1.2 ***Emotional Manifestation Statements Reliability Statistics (Cronbach Alpha)***

Frequentist Scale Reliability Statistics	
Estimate	Cronbach's α
Point estimate	0.927
95% CI lower bound	0.918
95% CI upper bound	0.935

Note. Of the observations, pairwise complete cases were used.

Frequentist Individual Item Reliability Statistics

Item	If item dropped Cronbach's α
D1	0.919
D2	0.921
D3	0.919
D4	0.919
D12	0.920
D13	0.922
D14	0.930
D17	0.922
D21	0.920
D22	0.920
D29	0.920
D30	0.923
D32	0.920

Table 1.2 shows reliability of the items in assessing the emotional manifestations of depression among parents. The scale's reliability, evaluated using Cronbach's α, showcases an impressive level of internal consistency, with a point estimate of 0.927, denoted as 'Excellent.' This score signifies a robust and dependable measure of the construct being evaluated, indicating strong coherence among the items in the scale. The values between 0.918 and 0.935 tell us the range of how reliable the statements are. The lower values under 'If item dropped' indicate the potential impact on test reliability in the event that one statement is eliminated. They are all roughly comparable to the mean, indicating that the tool remains valid for measuring parent's emotional manifestations of depression. Sample statements to check on the emotional manifestations of parents included Statement 3 "There's emptiness in my heart", Statement 17 "I feel like the world is better without me", and Statement 30 "I am sensitive to other people's comments about me". These were some of the collated manifestations that have been found across different literature, such as those done by Grahek et al. (2019) and Berry's (2022).

Table 1.3 ***Behavioral Manifestation Statements Reliability Statistics (Cronbach Alpha)***

Frequentist Scale Reliability Statistics	
Estimate	**Cronbach's α**
Point estimate	0.923
95% CI lower bound	0.915
95% CI upper bound	0.931

Note. Of the observations, pairwise complete cases were used.

Frequentist Individual Item Reliability Statistics	
	If item dropped
Item	**Cronbach's α**

D11	0.918
D16	0.921
D18	0.915
D19	0.917
D23	0.916
D24	0.915
D26	0.915
D28	0.917
D33	0.915
D34	0.919
D35	0.917
D36	0.918

Table 1.3 presents reliability statistics pertaining to the tool focusing on behavioral manifestations. The primary metric used for gauging the internal consistency and reliability of the assessment, Cronbach's α, is reported as 0.923, signifying an excellent level of reliability. The confidence interval (CI) provides a range within which the true reliability of the test is likely to lie, with the lower bound at 0.915 and the upper bound at 0.931, indicating a high degree of confidence in the test's consistency. The subsequent section details the impact of removing each individual item from the assessment on its overall reliability. These values, ranging from 0.915 to 0.921, demonstrate the potential effect of eliminating specific statements. Notably, these values remain close to the primary reliability metric, suggesting that removal of any single item would have a minimal impact on the overall reliability of the test in assessing behavioral manifestations among parents. To check on the parents' behavioral manifestations, the statements such as Statement 16 "I inflict pain to myself when in difficult situations", which was still found in Cipriano et al.'s (2017) paper, Statement 24 "I feel tired most of the time", and Statement 34 "I acquire physical absences than usual in school/work", if which were also seen in Corfield et al.'s (2016) study and Fletcher's (2022) article, were included.

The results of applying Cronbach's alpha scores to each statement in the inventory show a high degree of reliability and internal consistency. The determined Cronbach's alpha scores were within the acceptable range, demonstrating a high degree of consistency and interrelatedness across the questions that measure the stress, anxiety, and depression that parents encounter. Therefore, these reliable indicators offer a strong basis for precisely assessing and understanding the complex sensations of stress, anxiety, and depression in parents.

DISCUSSION

The results from the analysis of the developed inventory to assess depression among parents highlight its strong reliability across cognitive, emotional, and behavioral manifestations of depression. The high Cronbach's alpha values observed in Table 1.1 (α = 0.904), Table 1.2 (α = 0.927), and Table 1.3 (α = 0.923) indicate an 'excellent' level of internal consistency for each domain assessed by the inventory. These values, well above the commonly accepted threshold for reliability, affirm the tool's efficacy in providing consistent and dependable measurements across different dimensions of parental depression.

The 95% confidence intervals further reinforce the reliability of the inventory, with narrow ranges indicating a high level of precision in the instrument's ability to measure the intended constructs. Specifically, the confidence intervals for cognitive (0.893 to 0.915), emotional (0.918 to 0.935), and behavioral (0.915 to 0.931) manifestations underscore the robustness of the scale in capturing the nuanced aspects of depression among parents.

Moreover, the analysis of individual item reliability, indicated by the slight changes in Cronbach's alpha values if items were removed, showcases the stability of the inventory. Each item contributes meaningfully to the overall construct measurement, with no single item disproportionately affecting the scale's reliability. This suggests a well- balanced tool where each question plays an integral role in capturing the breadth of parental depression's cognitive, emotional, and behavioral facets.

These findings collectively highlight the inventory's strong psychometric properties, making it a valuable instrument for accurately assessing and understanding the complex phenomenon of depression among parents. The high degree of reliability and internal consistency across different manifestations of depression provides a solid foundation for further research and practical applications in mental health assessment and intervention for parents experiencing depression.

Conclusions

The comprehensive analysis of the newly developed inventory for assessing depression among parents has demonstrated excellent reliability across cognitive, emotional, and behavioral domains, as evidenced by Cronbach's alpha values. The instrument's robust internal consistency, coupled with narrow confidence intervals, ensures its effectiveness in capturing the multifaceted nature of parental depression with precision and stability. Furthermore, the individual item reliability analysis underscores the balanced contribution of each item to the overall construct, highlighting the tool's capacity to remain reliable even with the potential removal of individual statements. These findings affirm the inventory's validity and reliability as a psychometrically sound tool, poised to significantly contribute to the accurate assessment, understanding, and intervention of depression among parents, thereby addressing a critical need in mental health research and practice.

Recommendations

Based on the findings and conclusions of the current study, several recommendations can be made to further the research and application of the developed inventory for assessing depression among parents:

1. Further Validation Studies: Although the inventory has shown excellent reliability, it is recommended to conduct further validation studies involving larger and more diverse populations. This could include parents from various socio-economic backgrounds, ethnicities, and parenting situations (e.g., single parenting, parents of children with special needs) to ensure the tool's applicability across different demographics.

2. Longitudinal Research: Implementing longitudinal studies to track changes in parental depression over time using the inventory can provide insights into how depression manifests and evolves in parents. This can also help in understanding the long-term efficacy of interventions aimed at reducing parental depression.

3. Cross-Cultural Adaptation and Validation: To enhance the inventory's global applicability, adapting and validating it for use in different cultural contexts is recommended. This involves ensuring that the inventory's items are culturally sensitive and relevant, thereby making it a valuable tool for international research and practice.

4. Integration into Clinical Practice: Healthcare providers, especially those in pediatric and family medicine, should be encouraged to use the inventory as part of routine screenings for parental depression. This can facilitate early identification and intervention, contributing to better mental health outcomes for parents and their families.

5. Development of Intervention Programs: Based on the insights gained from the inventory application, develop targeted intervention programs tailored to the specific needs of parents exhibiting signs of depression. These programs can focus on cognitive-behavioral strategies, social support enhancement, and stress management techniques.

6. Educational Campaigns: Launch educational campaigns aimed at raising awareness about parental depression, its impact on family dynamics, and the importance of seeking help. These campaigns can also highlight the availability of the inventory as a self-assessment tool for parents to recognize symptoms of depression early.

To support the local government units (LGUs) in addressing parental depression effectively, the following recommendations are forwarded:

1. Implement Community Screenings: Incorporate screenings for depression among parents into existing health services at community centers and barangay health stations. Utilize the developed inventory for early detection to connect parents with the support and resources they need.

2. Educate and Empower: Offer training for barangay health workers and community volunteers on recognizing signs of depression in parents and basic mental health support strategies. Promote awareness through community seminars and online platforms to destigmatize seeking help for mental health issues.

3. Create Support Networks: Establish support groups and wellness programs for parents within the community, focusing on stress management, emotional well- being, and parenting support. Collaborate with mental health professionals to provide expert advice and counseling services.

Compliance with Ethical Standards

All applicable institutional guidelines where the study was conducted were followed. The participants were informed of their freedom to answer the survey instrument. All who had submitted their answers had written informed consent.

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DIFFERENTIATED INSTRUCTION (DI) FOR GRADE 9 ENGLISH

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ABSTRACT

This study assessed the effect of using differentiated instruction in teaching the different kinds of verbal to grade 9 students in TSNHS, Trinidad, Bohol for S.Y. 2017-2018. Specifically, it identified the research subjects´ scores before and after using DI, and the significant difference between the pre-posttests scores. It employed quasi-experimental to estimate the causal impact of DI as an intervention on the learning of verbals on the target population. Match pair design with t-statistics was utilized to determine the significant differences between the pre-posttests scores of the respondents in the use of verbals. The findings revealed that with the use of DI, all posttests' scores showed an increase compared to the pretest scores, and that there is a consistent significant difference between all the pre-posttests scores of the students in gerund, infinitives and participle. Thus, it is concluded that Differentiated Instruction (DI) facilitated the effective teaching and learning of verbals: gerund, infinitives and participles. This study recommends for teachers to use DI in teaching verbals to students especially in heterogenous classes and to utilize the learning packet in teaching verbals.

Keywords: *Grade 9 English, Teaching Verbals, Differentiated Instruction, Learning Packet, Quasi Experimental, Match Pair Design, Trinidad, Bohol*

INTRODUCTION

The importance of grammar skills extends beyond academic boundaries into a variety of areas of life, including education, leadership, and professional success (Smith, 2015). Grammar skills not only enhance written communication but leadership effective and facilitates language acquisition, especially for non-native speakers (Brown, 2012 & Jones, 2013). Despite the importance, teachers often face challenges to effectively engage

students in grammar lessons, as evidenced by reports from English teachers in Tagum Sur National High School, Trinidad District, Bohol, Philippines which grammar proficiency levels, specifically in school year 2016-2017, especially in oral language, still being below average which affected the school's general performance test results.

Given the critical role that grammar plays in academic achievement, it is important to address this issue because of its subsequent implications for performance-based compensation for teachers. One of the major considerations is the strategies that educators use in teaching grammar to students. They should remember that different students perform differently for each student comes to school with unique academic needs and background experiences, culture, language, personality, interests, and attitudes toward learning (Tomlinson & Allan, 2012). Knowing this, teachers recognize that all of these factors affect how students learn in the classroom, and they adjust or differentiate their instruction to meet students' needs.

The Philippine Constitution of 1987, Article XV, Section 2, and Section 21 Chapter 2 of the Education Act of 91982 emphasizes the government's vision that each school should mold children the best way possible in order for them to become the prime movers of the society. This will be realized and achieved when a strong foundation is built in every student. However, analyzing the proficiency level of students in the Philippines, the real picture can be seen—learners struggle to learn basic skills, especially grammar. Middle school and high school teachers are often caught up in the dilemma of weighing content area expectations against the need to motivate students to become confident and curious learners. Differentiated instruction is a strategy that addresses student needs and preferences while also respecting the high demands of accountability in meeting the standards set by the department to ensure quality in education (Tomlinson, 2014). Differentiation embraces many of the processes, strategies, and approaches supported by best practices and researches (Smith & Tomlinson, 2012). While not confined to a single content area or a specific grade level, the differentiated approach to classroom instruction is one that can be applied to any content area at any grade level.

Thus, this study seeks to investigate the effectiveness of differentiated learning in improving grammar skills among high school students. Further, this study aims to bridge the gap in instructional approaches by investigating whether differentiated instruction based on Jerome Brunner's constructivist theory and Howard Gardner's theory of multiple intelligences can effectively meet students' diverse learning needs and improve their grammar skills.

Bruner's Constructivist Theory (1961) emphasizes the importance of instruction to align students' existing knowledge and conceptual frameworks, emphasizing active engagement and the gradual building of understanding. Similarly, Gardner's (1983) Theory of Multiple Intelligences emphasizes that the individual is unique among people, which means educational strategies need to be integrated with educational strategies and integrate these concepts. This study is creating attempts to complete discrimination procedures with students with diverse collections and educational priorities.

While differentiated instruction can be done in many ways-content, process, product and/or content until product differentiation (Tomlinson, 2014), in this study, the researcher differentiates the process in which the students learn the same lesson content in various ways but shall undergo the same assessment to check their understanding. With the adoption of this approach, teachers can provide customized learning experiences that meet students' individual needs and encourage learning outcomes. Through a comprehensive examination of the effectiveness of differentiated instruction in grammar instruction, this study seeks to contribute to the ongoing discourse on innovative instructional practices and their impact on student learning outcomes.

Research Questions

This research assessed the effect of differentiated instruction in teaching verbals to Grade 9 students in Tagum Sur National High School, Trinidad, Bohol during school year 2017- 2018 as basis for a proposed learning packet.

Specifically, this answered the following questions:

1. What are the students' scores before and after being exposed to differentiated instruction on the proper use of the following verbals:
   1.1 gerund,
   1.2 infinitive, and
   1.3 participle?
2. Are there significant mean differences between the students' pretests and posttests Scores on the aforementioned variables?
3. What learning packet can be proposed based on the findings of the study?

METHODOLOGY

The study was conducted at Tagum Sur National High School located at the center of Tagum Sur, Trinidad, Bohol which is situated three kilometers along the national highway from the center of its municipality with one-section grade 9 class with 45 students serving as the subject of the study. This class was taken as participants in the conduct of the pre- posttests on verbals as this research employed quasi-experimental which is an empirical intervention study used to estimate the causal impact of an intervention - Differentiated Instruction on target population without random assignment. It identifies a comparison group that is as similar as possible to the treatment group in terms of baseline through pretest-posttest (same class). The same students served as the subject of the grammar class where differentiated instruction was applied.

In order to gather the needed data to complete the study, the researcher utilized grammar tests referring to a set of tests administered to the respondents for the purpose of determining the students' performance in grammar, specifically verbals, before and after

the application of differentiated instruction in grammar class. This test was in two parts" pretest and posttest which have been both adapted from the internet and secondary English textbooks. Few modifications were considered to facilitate differentiated instruction, especially in the posttests. However, the researcher has added briefers to each test for clarity. The components in both pretest and posttest are the same. However, they vary in the way the test items are constructed and introduced. The students answered each of these tests as guided by the instructions provided for. Grammar pretest and posttest answers of research subjects for each and every item in all the tests in the three kinds of verbal: gerund, infinitive and participle, could either be correct or not correct. For every correct answer per number, a score of one was noted or given. For every wrong answer, 0 score was acquired.

The data gathered were statistically treated for the analyses and interpretations which collectively served as the findings. T-test was used to treat the significant differences between the respondents' pre-posttests scores in the uses of the different kinds of verbal before and after being exposed to differentiated instruction. The scores were collected from the administered pretests and posttests. Statistical parameters and formula were used to measure and evaluate the scores of the respondents. These scores were compared to answer the problem of the study on the pre-posttests performances of the research participants. The T-tests for paired samples was utilized to determine the significant differences between the pretests and posttests scores of the respondents in the uses of gerund, infinitive and participles before and after applying differentiated instruction.

RESULTS

Table 1

Pre-Posttest Scores of the Respondents in the Use of Gerund

Scores	Pretest		Posttest		Result
	Frequency	Accumulated Score	Frequency	Accumulated Score	Decreased/ Gained
10	0	0	5	50	Gained
9	0	0	11	99	Gained
8	0	0	14	112	Gained
7	0	0	12	84	Gained
6	0	0	3	18	Gained
5	2	10	0	0	Decreased
4	8	32	0	0	Decreased
3	18	54	0	0	Decreased
2	13	26	0	0	Decreased
1	3	3	0	0	Decreased
0	1	0	0	0	Decreased
Total	45	129	45	363	Gained
Mean	2.777778		8.066667		Gained
Median	3		8		Gained
Mode	3		8		Gained
Standard Deviation	1.0420145		1.115999		Gained

Table 2

Pre-Posttest Scores of the Respondents in the Use of Infinitive

Scores	Pretest		Posttest		Result
	Frequency	Accumulated Score	Frequency	Accumulated Score	Decreased/ Gained
10	0	0	7	70	Gained
9	0	0	13	117	Gained
8	0	0	7	56	Gained
7	0	0	13	91	Gained
6	0	0	5	30	Gained
5	1	5	0	0	Decreased
4	6	24	0	0	Decreased
3	19	57	0	0	Decreased
2	11	22	0	0	Decreased
1	5	5	0	0	Decreased
0	3	0	0	0	Decreased
Total	45	113	45	364	Gained
Mean	2.511111		8.088889		Gained
Median	3		8		Gained
Mode	3		8		Gained
Standard Deviation	1.140618		1.29373		Gained

Table 3

Pre-Posttest Scores of the Respondents in the Use of Participles

Scores	Pretest		Posttest		Result
	Frequency	Accumulated Score	Frequency	Accumulated Score	Decreased/ Gained
10	0	0	7	70	Gained
9	0	0	13	117	Gained
8	0	0	10	80	Gained
7	0	0	14	98	Gained
6	0	0	1	6	Gained
5	0	0	0	0	Decreased
4	15	60	0	0	Decreased
3	21	63	0	0	Decreased
2	6	12	0	0	Decreased
1	3	3	0	0	Decreased
0	0	0	0	0	Decreased
Total	45	138	45	371	Gained
Mean	3.066667		8.244444		Gained
Median	3		8		Gained
Mode	3		8		Gained
Standard Deviation	0.863397		1.131282		Gained

Table 4

Significant Difference between the Pre-Posttest Scores in the Use of Gerund

t-Test: Paired Two Sample for Means		
	Post	***Pre***
Mean	8.066667	2.777778
Variance	1.245455	1.085859
Observations	45	45
Pearson Correlation	0.208461	
Hypothesized Mean Difference	0	
Df	44	
t Stat	26.1096	
P(T<=t) one-tail	1.02E-28	
t Critical one-tail	1.68023	
P(T<=t) two-tail	2.04E-28	
t Critical two-tail	2.015368	
Significantly different		
Reject Ho		

Table 5

Significant Difference between the Pre-Posttest Scores in the Use of Infinitives

t-Test: Paired Two Sample for Means		
	Post	***Pre***
Mean	8.088889	2.511111
Variance	1.673737	1.30101
Observations	45	45
Pearson Correlation	0.107126	
Hypothesized Mean Difference	0	
Df	44	
t Stat	22.94786	
P(T<=t) one-tail	2.04E-26	
t Critical one-tail	1.68023	
P(T<=t) two-tail	4.08E-26	
t Critical two-tail	2.015368	
Significantly different		
Reject Ho		

Table 6

Significant Difference between the Pre-Posttest Scores in the Uses of Participles

t-Test: Paired Two Sample for Means		
	Post	***Pre***
Mean	8.244444	3.066667
Variance	1.279798	0.745455
Observations	45	45
Pearson Correlation	0.122547	
Hypothesized Mean Difference	0	
Df	44	
t Stat	25.99119	
P(T<=t) one-tail	1.23E-28	
t Critical one-tail	1.68023	
P(T<=t) two-tail	2.46E-28	
t Critical two-tail	2.015368	
Significantly different		
Reject Ho		

DISCUSSION

Table 1 shows the pretest and posttest scores of the respondents in the uses of gerund achieved through ten-item test for both pretest and posttest.

Data in this table revealed that for scores 1 to 10 in the pretest, frequency of responses and accumulated scores were found in the lower bracket from 0 to 5. However, in the posttest, there is an observed opposite concentration of scores. Frequency and accumulated scores were noted and tallied in the upper scores from 6 to 10.

This rundown of pre-posttests scores signaled gains in the upper scores from 6 to 10, while it shows decrease in the lower scores from 5 down to 1. This resulted to a high increase in the pre-posttest mean from 2.78 to 8.07 leading to other significant increase in median and mode from 3 to 8. Moreover, it is revealed that pretest with a mean of 3 Sd=1.04 median and mode from 3 to 8. Moreover, it is revealed that pretest with a mean of 3 Sd=1.04) is lower than the posttest mean at 8 (Sd=1.12).

This could further tell that posttest scores which resulted from the use of DI for gerund increased compared to pretest scores. Definitely differentiated instruction brought an increase to the students' scores in the posttest on gerund. However, the variance results

(Sd) of 1.04 and 1.12 are not that big which signify those abilities are heterogenous, meaning the students were of differing level of intelligence.

The finding is supported by Stravroula et. al (2011) in a study on DI where it was proven that DI positively affects diverse students' characteristics.

With table 2, the pretest and posttest scores of the participants in the uses of infinitives before and after applying differentiated instruction are presenting the frequencies of the students getting the upper scores of 6 until the perfect score of 10 tallying an increase in the posttest versus the pretest scores. The posttest mean at 8.08 (Sd=1.29) is a little bit higher than the pretest mean at 2.5 (Sd=1.14).

The presented data showed a vivid positive effect of using differentiated instruction in teaching infinitives. Increase in pre-posttest scores is evident. The Sd values at 1.14 and
1.29 also show students' differing intelligences.

Subban (2006) and Stronge (2004) supported this finding in their claims that there could be increase in learners' performance if the teacher has addressed their learning differences. With DI, the teacher's approach may have affected very well the acquisition of the learning competencies (Wilson 2009).

Table 3 presents that the posttest scores tallied another increase in the frequency of the scores from 6 until 10 as the perfect score. The scores of 0, 1, 2, 3, 4 and 5 manifested decrease in number. This is relatively higher than the pretest with the mean at 3.07 (Sd=0.86) compared to post at 8.24 mean score (Sd=1.13).

These data revealed another positive impact of DI, however this time, in the teaching of participle. Frequencies and accumulated scores both emphasized increase. Standard Deviation (Sd) values at .086 and 1.13 provide another evidence for students' multiple intelligences. DI must have surely brought about this improvement in scores as supported by Stravroula et .al (2011), Subban (2006) and Stronge (2004).

Data presented from table 1 to table 3 testify that with the application of Differentiated Instruction in learning verbals: gerund, infinitive and participle students could achieve better scores compared to pretests which did not employ DI. Though the increase in frequencies in the identified scores did not show consistency as manifested in the variations of frequencies of increase, student posttest scores in totality soared up. This is supported by the consistent increase of mean values from 3 to 8 in all pre-posttests results

in all three kinds of verbal. This could mean that DI facilitated the improvement of students' performance in the three components of verbal.

Table 4 indicates that the mean scores in the pre-posttests on the uses of gerund were significant at 0.05 level having the probability (P) value at 2.04-significant leading to the rejection of the null hypothesis.

This strengthened the claim that DI positively affected the posttest scores of the students in gerund making them higher compared to pretest scores. Hence, it is safe to say that DI is effective based on the data.

Table 5 bears the statistical computation on the difference in the pre-posttests test results of the participants in the uses of infinitives showing the computed probability value (P) at
4.08 signifying significant difference between the pre-posttests scores of the students in infinitives.

The same with gerund, the teaching of infinitive was also done applying DI. Hence, this significant difference in scores from low to increasing numbers could also be attributed to the use of differentiated instruction.

Compared with the result on gerund, the significant difference between the preposttest scores of the participants in infinitives as shown in the significant increase of scores

in the posttest compared with the pretest, made it also more evident that the exposure to DI does not only apply to increase in scores on gerund, but to infinitives as well. This then makes it safe to conclude that DI is effective for both gerund and infinitives.

Table 6 presents the statistical treatment result on the difference between the preposttests scores of the students in the uses of participles identifying significant difference between the students' scores in the pretest and posttest on the uses of participles as made evident in the statistical result of the probability value (P) at 2.46. This directed to the rejection of the null hypothesis for participle.

Tables 4, 5 and 6 on the significant differences between the pre-posttests scores of the students in gerund, infinitives and participles, consistently disclosed that there are significant differences in the pretests and posttests results among all the three kinds of verbal.

This finding, fully supported and strengthened the claim that DI facilitates the teaching of the different uses of gerund, infinitives and participles as verbals. DI is effective in teaching all kinds of verbal. There has been remarkable increase of scores in the posttests after students' exposure to DI versus the pretest scores. This identified increase is consistently proven with the results of all probability values of significant differences between pre-posttests scores in all three kinds of verbal.

Differentiated instruction resulted to the achievement of students' improved performance from the pretests to the posttests in the three kinds of verbals. Differentiated instruction

brings forth learning in the classroom when it facilitated effective teaching and effective student learning in the use of the different kinds of verbals: gerund, infinitives and participles.

Conclusions

With all posttests' scores in three kinds of verbal showing an increase compared to the pretest scores, and with the significant differences between the students' scores in the pretest and posttest in the uses of all the three kinds of verbal, the study drew out that Differentiated Instruction facilitated the effective teaching and learning of verbals: gerund, infinitives and participles of the Grade 9 students in Tagum Sur National High School, school year 2017 to 2018.

Recommendations

In the light of the findings and the conclusion of the study, it is suggested to;

1. Use DI in teaching verbals to students especially in heterogenous classes.
2. Utilize the learning packet in teaching verbals.

Compliance with Ethical Standards

In conducting this study, the researcher adhered to strict ethical standards, prioritizing the rights and dignity of all participants, while striving to obtain valuable and accurate data The researcher diligently observed, adhered to and ensured that the following key ethical principles.

Informed Consent. Participants were carefully informed about the purpose of the study, procedures, possible risks or benefits, and how their information would be used. This was done through a fully informed consent form distributed prior to the study, giving participants ample opportunity to review, ask questions, and ultimately submit their consent for it. It was clear that participation was voluntary, and participants had the unequivocal right to withdraw from study at any point, with no consequences

Confidentiality and Anonymity. Participant privacy and confidentiality were strictly maintained throughout the study. Personal data and comments were handled more discreetly, and the anonymity of the participants was ensured, especially in the presentation and publication of the study results. To this end, participants were protected by pseudonyms or codes during data analysis and reporting, and data were securely hidden from unauthorized access.

Prevention of Plagiarism. The researcher strictly followed the principles of academic integrity by carefully describing and crediting all materials used in the research and Originality and authenticity is paramount, and information was obtained directly from

participants and analyzed in the specific context of the study. In-text citations and a comprehensive bibliography were used to ensure clarity of sources to acknowledge all contributions.

Establishment of Contact. The researcher maintained a strong commitment to fairness and objectivity, which ensured that no conflict of interest would compromise the conduct or interpretation of the research. Transparency and honesty were maintained throughout, and any potential conflicts were immediately identified and addressed to support the integrity and honesty of the survey results.

Bias Mitigation. Findings were interpreted with great diligence to prevent the introduction of bias. The research procedures were conducted objectively, with an unwavering commitment to accurate and transparent presentation of results. Rigorous review and peer review processes were used to minimize the impact of personal bias, and to ensure the validity and reliability of the survey data.

By unwaveringly applying these ethical standards, the researcher not only upheld the rights and well-being of the participants but also ensured the reliability of the research results kept authentic that she only used the findings gained through this process to further knowledge and understanding in the field.

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EMPLOYEES AND MIDDLE-LEVEL ADMINISTRATORS' WORK ENVIRONMENT AND WORK ENGAGEMENT AT PUBLIC HIGHER EDUCATION INSTITUTIONS IN SULU

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ABSTRACT

This descriptive-correlational study describes the extent of work environment and work engagement of employees and middle-level administrators of public higher education institutions (HEIs) in Sulu during the Academic Year of 2021-2022. This study reveals the following findings: 1) Out of 190 respondents, almost three-fourth have permanent work status, and almost one-half have Bachelor's degree. 2) Sub-categories subsumed under ethical work environment in terms of egoistic, deontological and utilitarian are rated as "Agree" and interpreted as "High Tendency". 3) Sub-categories subsumed under work engagement in terms of vigor, dedication, and absorption are rated as "Agree" and interpreted as "High Tendency". 4) No significant difference in the extent of ethical work environment of public HEIs in Sulu in the context of egoistic, deontological, and utilitarian when data are categorized according to length of service, status of appointment, and educational attainment. 5) No significant difference in the extent of work engagement of public HEIs in Sulu in the context of vigor, dedication, and absorption when data are categorized according to length of service, and status of appointment. However, significant difference exists when are categorized in terms of educational attainment. Respondents with Master's degree have better ways of perceiving the extent of work engagement in terms of vigor, dedication, and absorption. 6) Generally, there is a high positive correlation among the extent of the sub-categories subsumed under ethical work environment (egoistic, deontological, and utilitarian) and work engagement (vigor, dedication, and absorption) of public HEIs in Sulu. With high correlation between ethical work environment and work engagement, this particular study tends to support the theoretical models proposed by Rothman (2017) Ethical Philosophical Constructs and Bakker's (2011) Work Engagement Model.

Keywords: *Ethical Behavior, work environment, work engagement, professional ethics, public higher education institutions*

INTRODUCTION

In today's work environment, administrators are inevitable to public scrutiny. Public administrators have been shrouded by social issues, albeit morality, work ethics and work engagement.

Organizational work ethics, especially practiced by higher education managers, concern both the general public and academic community. As a result, attention has increased on scrutinizing educators' development of moral reasoning. Past research on individual and professional ethics, as well as the theoretical models that attempt to explain academic decision behavior, indicate that organizational-level variables have a significant impact on individual decisions. Since education managers' decisions impact organizational goals via organizational ethical behavior and work engagement, this researcher wishes to determine the extent of environment and work engagement of middle education managers of higher education institutions.

Ethical work environment has been defined as "perceptions of what constitutes ethically correct behavior and how ethical issues should be handled in the organization" (Peterson, 2002, p. 50 in Baskin et al., 2016). Thus, public higher education institutions in the Philippines are mandated by the Commission on Higher Education (CHED) to promulgate and implement their operation manuals that should be based, among others, on established ethical standards for public officials and employees.

However, gap seems to have been existed for quite a time now. That is, based on Keenan (2015) analysis of the ethics literature in higher education has reported ethical transgressions in higher education institutions from the late 1980s until 2015, involving administrators and faculty. Ethical work environment in an organization has been impacting the ethical behavior; that is work engagement of the employees within that organization (Rothman, 2017).

In so doing, the literature has also shown that ethical issues in higher education receive little attention. According to Robinson and Moulton (2005 in Rothman, 2017), ethical issues in higher education receive little publicity compared to ethical issues in business, politics, and medicine. Robinson & Moulton (2005) claimed that serious study of ethical issues in higher education has largely been ignored.

Consequently, ethical transgressions can be traced back to the influence of ethical climates (Arnaud, 2010 in Rothman, 2017). The literature indicates that there is a link between the perceived ethical work environment and the ethical behavior or work engagement of an employee. More specifically, ethical climate can be a predictor of the ethical behavior of the employees. Cullen, Victor, and Stephens (1989 in Rothman, 2017) posited that identifying the prevailing ethical climate of an organization constitutes the first crucial step toward creating a climate that is appropriate and effective.

Martin and Cullen (2006 in Rothman, 2017) encouraged future research on ethical climate in various types of organizations. Al-Omari (2012 in Rothman, 2017) opined that there were limited studies of ethical climate in higher education

institution, which

prompted his study of the ethical climate in a higher education institution with a focus on the faculty members' perception of the prevailing ethical climate at the university. Al- Omari's primary objective for his study was to obtain empirical data of the perceived ethical climate of the faculty and to use the results to support the development of ethical training and professional development programs to help improve the ethical climate at the studied university.

The literature shows that ethical behavior is linked to the perceived ethical climate of employees, and ethical climate can be a predictor of ethical behavior which is akin to work engagement (Simha & Cullen, 2011 in Rothman, 2017). This fact, coupled with the continual ethical transgressions involving higher education institutions, support the significance of measuring and predicting ethical work environment and work engagement in higher education institutions. Studying these constructs can serve as an effective strategy for the higher education middle managers to better manage the ethical work behavior of their employees. In addition, there is a need to further explore ethics and work engagement in higher education institutions due to the limited research. Specifically, the Keenan (2015) study of higher education institution concluded that ethical behavior is a problem that receives little attention.

Therefore, owing to the compelling reasons aforementioned above, and the need to investigate the prevailing ethics of work environment that which assumed to affect the work engagement of government employees, this study was conducted in order to gather empirical data as bases for the confirmation or denial of the abovementioned claims.

Research Questions

This study determined the extent of work environment and work engagement of employees and middle-level administrators of public higher education institutions (HEIs) in Sulu during the Academic Year of 2021-2022. More specifically, this research answered each of the following questions:

1. What is the demographic profile of employees and middle-level administrators of HEIs in Sulu in terms of:
   1.1 Length of service;
   1.2 Status of appointment; and
   1.3 Educational attainment?
2. What is the extent of ethical work environment of employees and middle-level administrators of public higher education institutions (HEIs) in the context of:
   2.1 Egoistic ethical behavior;
   2.2 Deontological Ethical behavior; and
   2.3 Utilitarian Ethical behavior?
3. What is the extent of work engagement of employees and middle-level administrators of public higher education institutions (HEIs) in the context of:
   3.1 Vigor;
   3.2 Dedication; and
   3.3 Absorption?

4. Is there a significant difference in the extent of ethical work environment of employees and middle-level administrators of public higher education institutions (HEIs) when data are classified according to:

4.1 Length of service;

4.2 Status of appointment; and

4.3 Educational attainment?

5. Is there a significant difference in the work engagement of employees and middle-level administrators of public higher education institutions (HEIs) when data are classified according to:

5.1 Length of service;

5.2 Status of appointment; and

5.3 Educational attainment?

6. Is there a significant correlation among the sub-categories subsumed under ethical work environment and work engagement?

METHODOLOGY

A descriptive research design method was employed in this study. According to Bless and Higson-Smith, a research design as “a program that guides a researcher in collecting, analyzing and interpreting observed facts.” (1995:63). Thus, this study purported to describe, quantify, and infer as well as to discover significant differences and relationships among variables and to allow the prediction of future events from present knowledge or phenomenon of employees and middle-level administrators of public Higher Education Institutions (HEIs) in Sulu. In addition, this study was conducted among public HEIs in Sulu during the Academic Year 2021-2022. These public HEIs are located in the province of Sulu that are under the direct supervision of the Commission on Higher Education (CHED). The respondents of this study were the 190 employees and middle- level administrators of public HEIs in Sulu who are currently employed during this Academic Year 2021-2022 regardless of their academic ranks. For the sampling design, a non-probability sampling design through purposive sampling method was employed in this study. The use of purposive sampling in this study was to ensure the proper representation of gender, age, civil status, length of service, status of appointment and educational attainment. A permit to administer the questionnaire was secured from the Office of the Dean of Graduate Studies, the Chancellor/President/Superintendent of HEIs in Sulu; and the researcher launched and administered the questionnaires personally as well as the retrieval. Moreover, a survey questionnaire was the main instrument employed to gather data on the extent of ethical work environment and work engagement among employees of HEIs in Sulu. Work Environment questionnaire was adapted and patterned with slight modification from Rothman, Phillip (2017) Ethical Climate Questionnaire which was based on Al-Omari (2012). This questionnaire has the following sub-categories, namely: Egoism (8 items), Deontological (8 items), and Utilitarian (8 items). On the other hand, the work engagement questionnaire was adapted and patterned with some modification from Bay, Amelia B. et al. (2014). It has the following sub-categories, such as Vigor (6 items), Dedication (5 items), and Absorption (6 items). However, to suit for the usability in the local setting, slight modifications were made and these were subjected to

the perusal of at least two experts from the faculty members of the School of Graduate Studies of Sulu State College. Descriptive and inferential statistical tools were appropriately employed in the treatment of data gathered for this study, namely:

1) For research problem number one 1, frequency counts and percentage were employed to determine the profile of employees and middle-level administrators of HEIs in Sulu;
2) For research problem number two 2, mean and standard deviation were employed to determine the extent of the dimensions of work environment;
3) For research problem number two 3, mean and standard deviation were employed to determine the extent of the dimensions of work engagement;
4) For research problem number 4, one-way Analysis of Variance (ANOVA) was employed to determine the significant differences in the extent of the dimensions of work environment when data are grouped according to length of service, status of appointment and educational attainment.
5) For research problem number 4, one-way Analysis of Variance (ANOVA) was employed to determine the significant differences in the extent of the dimensions of work engagement when data are grouped according to length of service, status of appointment and educational attainment.
6) For research question number 6, Pearson Product Moment Correlation Coefficient (Pearson r) was employed to determine the degree of correlation between work environment and work engagement.

RESULTS AND DISCUSSION

The following are the presentations, analyses and interpretations of results based on the proper scoring and statistical treatments of data gathered for this study that which correspond to each of the research questions:

Table 1.1 Socio-demographic profile of the employees and middle-level administrators of public HEIs in Sulu in terms of length of service

Length of Service	Number of Respondents	Percent
5 years & below	59	31.1%
6-15 years	60	31.6%
16-25 years	41	21.6%
26 years & above	30	15.8%
Total	**190**	**100%**

Table 1.1 presents the socio-demographic profile of the employees and middle- level administrators of public HEIs in Sulu in terms of length of service. This table reveals that out of 190 respondents, 59 (31.1%) have 5 years & below, 60 (31.6%) have 6-15
years, 41 (21.6%) have 16-25 years, and 30 (15.8%) have 26 year & above. In this study, this means that more than one-half of the respondents are within the 15 years of work

experience. This result implies that majority of the employees and middle-level administrators of public HEIs in Sulu involved in this study are in the evolving/ascending stage of years of experience with regard to their office and school works.

Table 1.2 Socio-demographic profile of employees and middle-level administrators of public HEIs in Sulu in terms of status of appointment

Status of Appointment	Number of Employees	Percent
Permanent	120	63.2%
Temporary	15	7.9%
Contractual	55	28.9%
Total	**190**	**100%**

Table 1.2 shows the socio-demographic profile of employees and middle-level administrators of public HEIs in Sulu in terms of in terms of status of appointment. This table reveals that out of 190 respondents, 120 (63.2%) are permanent, 15 (7.9%) are temporary, and 55 (28.9%) are contractual. In this study, this means that almost three- fourth respondents are permanent and the other portion are contractual. This result implies that, the total work force of public HEIs in Sulu constitutes almost by permanent employees.

Table 1.3 Socio-demographic profile of the employees and middle-level administrators of public HEIs in Sulu in terms of educational attainment

Educational Attainment	Number of Employees	Percent
Bachelor's Degree	31	16.3%
Bachelor's with MA units	61	32.1%
Master's Degree	54	28.4%
Master's degree with doctoral units	32	16.8%
Doctoral degree	12	6.3%
Total	**190**	**100%**

Table 1.3 presents the socio-demographic profile of the employees and middle- level administrators of public HEIs in Sulu in terms of educational attainment. This table reveals that out of 190 respondents, 31 (16.3%) have Bachelor's degree, 61 (32.1) have
Bachelor's degree with MA units, 54 (28.4%) have Master's degree, 32 (16.8%) have Master's degree with doctoral units, and only 12 (6.3%) have Doctorate degree. In this study, this means that there are almost one-half of the respondents have Bachelor's degree. This result implies that, the trend of academic preparation of the work force

among the public HEIs in Sulu is concentrated more on basic employment qualification which is at least Master's degree or Bachelor's degree for exigency on service.

Table 2.1 Depicts the extent of ethical work environment of employees and middle- level administrators of public higher education institutions (HEIs) in the context of Egoistic ethical behavior

Statements		Mean	S.D.	Rating
1	In this college, people are out mostly for themselves	3.1632	1.06394	Neutral
2	People are expected to further the college's interest, regardless of the consequences	3.5842	.90896	Agree
3	There is no room for one's own personal morals or ethics in this college	3.2263	1.23714	Neutral
4	Work is considered sub-standard only when it hurts the college's interests	3.4579	1.04188	Agree
5	In this college, people protect their own interest above other considerations	3.2947	1.18074	Neutral
6	People are concerned with the college's interests	4.0579	.69146	Agree
7	Decisions are primarily viewed in terms of contribution to profit	3.6158	.85124	Agree
8	People in this college are very concerned about what is best for themselves	3.7526	1.02191	Agree
Total Weighted Mean		**3.5191**	**.69867**	**Agree**

Legend: (5) 4.50-5.00=Strongly Agree (Very High Tendency); (4) 3.50-4.49=Agree (High Tendency); (3) 2.50- 3.49=Neutral (Moderate Tendency); (2) 1.50- 2.49=Disagree (Low Tendency); (1) 1.00-1.49=Strongly Disagree (Very Low Tendency)

Table 2.1 depicts the extent of ethical work environment of employees and middle- level administrators of public higher education institutions (HEIs) in the context of Egoistic ethical behavior. It can be gleaned from this table that respondents have total weighted mean score of 3.5191 with standard deviation of .69867 which is rated as "Agree" and interpreted as "High Tendency"**.** This result indicates that respondents perceive that there is a high tendency for the employees of public higher education institutions in Sulu to perceive that the organization generally promotes self-interested decisions at the expense of others wherein decision comes directly from the individual who ignores the needs or interests of others.

Moreover, under this category, employee-respondents rated with "Agree" the following items: "People are expected to further the college's interest, regardless of the consequences", "Work is considered sub-standard only when it hurts the college's interests", "People are concerned with the college's interests", "Decisions are primarily viewed in terms of contribution to profit", and "People in this college are very concerned about what is best for themselves".

Notably, respondents ranked with “Neutral” the following items: “In this college, people are out mostly for themselves”, “There is no room for one's own personal morals or ethics in this college”, and “In this college, people protect their own interest above other considerations”.

Table 2.2 Depicts the extent of ethical work environment of employees and middle- level administrators of public higher education institutions (HEIs) in the context of Deontological ethical behavior

Statements		Mean	S.D.	Rating
1	It is very important to follow strictly the college's rules and policies	4.5368	.62251	Strongly Agree
2	The first consideration in a decision is whether the decision violates a law	4.1211	.81720	Agree
3	People are expected to comply with the law and professional standards over and above other considerations	4.1579	.68723	Agree
4	Everyone is expected to stick by college's rules and policies	4.3000	.62530	Agree
5	Successful people in this college go by the book	3.7211	1.0137	Agree
6	In this college, people are expected to strictly follow legal or professional standards	4.2421	.67008	Agree
7	Successful people in this college strictly obey the college's policies	4.1684	.71496	Agree
8	In this college, the law or ethical code of their profession is the major consideration	4.2895	.66300	Agree
Total Weighted Mean		**4.1921**	**.43504**	**Agree**

Legend: (5) 4.50-5.00=Strongly Agree (Very High Tendency); (4) 3.50-4.49=Agree (High Tendency); (3) 2.50- 3.49=Neutral (Moderate Tendency); (2) 1.50- 2.49=Disagree (Low Tendency); (1) 1.00-1.49=Strongly Disagree (Very Low Tendency)

Table 2.2 depicts the extent of ethical work environment of employees and middle- level administrators of public higher education institutions (HEIs) in the context of Deontological ethical behavior. It can be gleaned from this table that respondents have total weighted mean score of 4.1921 with standard deviation of .43504 which is rated as “Agree” and interpreted as “High Tendency”**.** This result indicates that respondents perceive that there is a high tendency for the employees of public higher education institutions in Sulu to perceive that certain actions of employees at public higher education institutions in Sulu are intrinsically right or wrong, because a person makes an ethical decision based on what is right, following moral rules. Their perspectives center on the actions of individual person and his or her moral obligation and responsibility to do what is right. They also believe that this ethical climate focuses on the behaviors guided by

principle, rules, laws, and codes, which promote decisions and actions for the good of others.

Moreover, under this category, employee-respondents rated with “Agree” the following items: “The first consideration in a decision is whether the decision violates a law”, “People are expected to comply with the law and professional standards over and above other considerations”, “Everyone is expected to stick by college's rules and policies”, “Successful people in this college go by the book”, and “In this college, people are expected to strictly follow legal or professional standards”.

Notably, respondents ranked with “Strongly Agree” the following item: “It is very important to follow strictly the college's rules and policies”.

Table 2.3 Depicts the extent of ethical work environment of employees and middle- level administrators of public higher education institutions (HEIs) in the context of utilitarian ethical behavior

Statements		Mean	S.D.	Rating
1	In this college, people look out for each other's good	4.1316	.79586	Agree
2	The most important concern in this college is each person's sense of what is right and wrong	4.1474	.76246	Agree
3	In this college, our major concern is always what is best for the other person	3.9789	.84175	Agree
4	Our major consideration is what is best for everyone in the college	4.2947	.67257	Agree
5	It is expected that you will always do what is right for the students and the public	4.4105	.65860	Agree
6	People are very concerned about what is generally best for employees of the college	4.2368	.67590	Agree
7	What is best for each individual is a primary concern for this college	4.1526	.70738	Agree
8	The effect of decisions on the students and the public are a primary concern in this college	4.1632	.73442	Agree
Total Weighted Mean		**4.1895**	**.53386**	**Agree**

Legend: (5) 4.50-5.00=Strongly Agree (Very High Tendency); (4) 3.50-4.49=Agree (High Tendency); (3) 2.50- 3.49=Neutral (Moderate Tendency); (2) 1.50- 2.49=Disagree (Low Tendency); (1) 1.00-1.49=Strongly Disagree (Very Low Tendency)

Table 2.3 depicts the extent of ethical work environment of employees and middle- level administrators of public higher education institutions (HEIs) in the context of Utilitarian ethical behavior. It can be gleaned from this table that respondents have total weighted mean score of 4.1895 with standard deviation of .53386 which is rated as “Agree” and interpreted as “High Tendency”**.** This result indicates that respondents have high tendency to believe that employees of public higher education institutions in Sulu to have ethical perspectives where employees see their organization as having a vested

interest in the well-being of others. They also hold-on in their expectations that each employee is concerned for the well-being of the other employees.

Moreover, under this category, employee-respondents rated with “Agree” the following items: “In this college, people look out for each other's good”, “The most important concern in this college is each person's sense of what is right and wrong”, “In this college, our major concern is always what is best for the other person”, “Our major consideration is what is best for everyone in the college”, and “It is expected that you will always do what is right for the students and the public”.

Table 3.1 Depicts the extent of work engagement of employees and middle-level administrators of public higher education institutions (HEIs) in the context of vigor

Statements		Mean	S.D.	Rating
1	At my work, I feel bursting with energy.	3.9316	.82331	Agree
2	At my job, I feel strong and vigorous.	4.1421	.73161	Agree
3	When I get up in the morning, I feel like going to work.	4.1789	.67423	Agree
4	I can continue working for very long periods at a time.	4.1053	.71970	Agree
5	At my job, I am very resilient, mentally.	4.1842	.69978	Agree
6	At my work I always persevere, even when things do not go well.	4.0316	.78279	Agree
Total Weighted Mean		**4.0956**	**.53321**	**Agree**

Legend: (5) 4.50-5.00=Strongly Agree (Very High Tendency); (4) 3.50-4.49=Agree (High Tendency); (3) 2.50- 3.49=Neutral (Moderate Tendency); (2) 1.50- 2.49=Disagree (Low Tendency); (1) 1.00-1.49=Strongly Disagree (Very Low Tendency)

Table 3.1 depicts the extent of work engagement of employees and middle-level administrators of public higher education institutions (HEIs) in the context of Vigor. It can be gleaned from this table that respondents have total weighted mean score of 4.0956 with standard deviation of .53321 which is rated as “Agree” and interpreted as “High Tendency”**.** This result indicates that respondents have high tendency to believe that employees of public higher education institutions in Sulu to have high spirit and energy levels and mental endurance at work. It is also believed these employees have high tendency to be resilient, mentally alert and persevere even when things do not go well.

Moreover, under this category, employee-respondents rated with “Agree” the following items: “At my work, I feel bursting with energy”, “At my job, I feel strong and vigorous”, “When I get up in the morning, I feel like going to work”, “I can continue working for very long periods at a time”, and “At my job, I am very resilient, mentally”.

Table 3.2 Extent of work engagement of employees and middle-level administrators of public higher education institutions (HEIs) in the context of Dedication

Statements		Mean	S.D.	Rating
1	I find the work that I do full of meaning and purpose.	4.2842	.70768	Agree
2	I am enthusiastic about my job.	4.3526	.65616	Agree
3	My job inspires me.	4.4632	.65563	Agree
4	I am proud on the work that I do.	4.4684	.65591	Agree
5	To me, my job is challenging.	4.3947	.65625	Agree
Total Weighted Mean		**4.3926**	**.58278**	**Agree**

Legend: (5) 4.50-5.00=Strongly Agree (Very High Tendency); (4) 3.50-4.49=Agree (High Tendency); (3) 2.50- 3.49=Neutral (Moderate Tendency); (2) 1.50- 2.49=Disagree (Low Tendency); (1) 1.00-1.49=Strongly Disagree (Very Low Tendency)

Table 3.2 depicts the extent of work engagement of employees and middle-level administrators of public higher education institutions (HEIs) in the context of Dedication. It can be gleaned from this table that respondents have total weighted mean score of 4.3926 with standard deviation of .58278 which is rated as "Agree" and interpreted as "High Tendency"**.** This result indicates that respondents have high tendency to believe that employees of public higher education institutions in Sulu to have strong involvement in work and feel important, enthusiastic and challenged. They also highly believe that the employees work with full of meaning and purpose and being enthusiastic about their jobs. Moreover, under this category, employee-respondents rated with "Agree" the following items: "I find the work that I do full of meaning and purpose", "I am enthusiastic about my job", "My job inspires me", "I am proud on the work that I do", and "To me, my job is challenging".

Table 3.3 Extent of work engagement of employees and middle-level administrators of public higher education institutions (HEIs) in the context of Absorption.

Statements		Mean	S.D.	Rating
1	Time flies when I'm working.	4.3632	.68213	Agree
2	When I am working, I forget everything else around me.	4.0684	.81685	Agree
3	I feel happy when I am working intensely.	4.3368	.67629	Agree
4	I am immersed in my work.	4.2158	.67515	Agree
5	I get carried away when I'm working.	4.0895	.84665	Agree
6	It is difficult to detach myself from my job.	4.0474	.84382	Agree
Total Weighted Mean		**4.1868**	**.59666**	**Agree**

Legend: (5) 4.50-5.00=Strongly Agree (Very High Tendency); (4) 3.50-4.49=Agree (High Tendency); (3) 2.50- 3.49=Neutral (Moderate Tendency); (2) 1.50- 2.49=Disagree (Low Tendency); (1) 1.00-1.49=Strongly Disagree (Very Low Tendency)

Table 3.3 depicts the extent of work engagement of employees and middle-level administrators of public higher education institutions (HEIs) in the context of Absorption. It can be gleaned from this table that respondents have total weighted mean score of 4.1868 with standard deviation of .59666 which is rated as “Agree” and interpreted as “High Tendency”**.** This result indicates that respondents have high tendency to believe that employees of public higher education institutions in Sulu to be highly concentrated, excited and engrossed a work as time passes. They also believe that these employees are immersed or absorbed when working, forget everything else around them, and feel happy when they are working intensely.

Moreover, under this category, employee-respondents rated with “Agree” the following items: “Time flies when I'm working”, “When I am working, I forget everything else around me”, “I feel happy when I am working intensely”, “I am immersed in my work”, and “I get carried away when I’m working”.

Table 4.1 Differences in the extent of ethical work environment of public higher education institutions in Sulu when data are classified according to length of service

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Egoistic Ethical Behavior	Between	6.541	3	2.180	4.731*	.003	Significant
	Within Groups	85.718	186	.461			
	Total	92.259	189				
Deontological Ethical Behavior	Between	.427	3	.142	.750	.524	Not Significant
	Within Groups	35.342	186	.190			
	Total	35.769	189				
Utilitarian Ethical Behavior	Between	.370	3	.123	.429	.732	Not Significant
	Within Groups	53.496	186	.288			
	Total	53.866	189				

**Significant at alpha 0.05*

Table 4.1 presents the differences in the extent of ethical work environment of public higher education institutions in Sulu when data are classified according to length of service. It can be gleaned from this table that except for Egoistic Ethical Behavior, the F-values and Probability Values of all of the sub-categories subsumed under ethical work environment are not significant at alpha .05. This means that, generally though respondents differ in their length of service, in this study they do not differ in their perceptions toward the extent of ethical work environment. This result implies that an employee who has been in service for 26 years & above may not probably make him/her better perceiver toward the extent of ethical work environment than other employees who have been serving in colleges/universities for 5 years & below, 6-15 years, and 16-25 years, or vice versa.

Moreover, it can be inferred further that employees and middle level administrators of public HEIs in Sulu, though differ in the number of years they been serving in public colleges/universities, generally have the same fashion of perceiving the ways how their schools/universities give priorities to employee rights, fair procedures, and equity in pay and promotion, and that promote tolerance, compassion, loyalty and honesty in the treatment of clienteles and employees.

Hence, it is safe to say that variable length of service has no significant influence in the ways how employees of public HEIs in Sulu perceive the extent of ethical work environment. Therefore, the hypothesis which states that "There is no significant difference in the extent of ethical work environment of employees and middle-level administrators of public higher education institutions (HEIs) when data are classified according to length of service" is accepted.

Table 4.2 Differences in the extent of ethical work environment of public higher education institutions in Sulu when data are classified according to status of appointment

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Egoistic Ethical Behavior	Between	7.648	2	3.824	8.451*	.000	Significant
	Within Groups	84.611	187	.452			
	Total	92.259	189				
Deontological Ethical Behavior	Between	.372	2	.186	.982	.376	Not Significant
	Within Groups	35.398	187	.189			
	Total	35.769	189				
Utilitarian Ethical Behavior	Between	.319	2	.159	.557	.574	Not Significant
	Within Groups	53.548	187	.286			
	Total	53.866	189				

**Significant at alpha 0.05*

Table 4.2 presents the differences in the extent of ethical work environment of public higher education institutions in Sulu when data are classified according to status of appointment. It can be gleaned from this table that except for Egoistic Ethical Behavior, the F-values and Probability Values of all of the sub-categories subsumed under ethical work environment are not significant at alpha .05. This means that, generally though respondents differ in their status of appointment, in this study they do not differ in their perceptions toward the extent of ethical work environment. This result implies that an employee who has permanent appointment may not probably make him/her better perceiver toward the extent of ethical work environment than other employees who have temporary and contractual status, or vice versa.

Moreover, it can be inferred further that employees and middle level administrators of public HEIs in Sulu, though differ in appointment status, generally have the same fashion of perceiving the ways how their schools/universities give priorities to employee rights, fair procedures, and equity in pay and promotion, and that promote tolerance, compassion, loyalty and honesty in the treatment of clienteles and employees.

Hence, it is safe to say that variable status of appointment has no significant influence in the ways how employees of public HEIs in Sulu perceive the extent of ethical work environment. Therefore, the hypothesis which states that “There is no significant difference in the extent of ethical work environment of employees and middle-level administrators of public higher education institutions (HEIs) when data are classified according to status of appointment” is accepted.

Table 4.3 Differences in the extent of ethical work environment of public higher education institutions in Sulu when data are classified according to educational attainment

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Egoistic Ethical Behavior	Between	17.399	4	4.350	10.749	.000	Significant
	Within Groups	74.860	185	.405			
	Total	92.259	189				
Deontological Ethical Behavior	Between	1.708	4	.427	2.319	.059	Not Significant
	Within Groups	34.061	185	.184			
	Total	35.769	189				
Utilitarian Ethical Behavior	Between	.985	4	.246	.861	.488	Not Significant
	Within Groups	52.882	185	.286			
	Total	53.866	189				

**Significant at alpha 0.05*

Table 4.3 presents the differences in the extent of ethical work environment of public higher education institutions in Sulu when data are classified according to educational attainment. It can be gleaned from this table that except for Egoistic Ethical Behavior, the F-values and Probability Values of all of the sub-categories subsumed under ethical work environment are not significant at alpha .05. This means that, generally though respondents differ in their educational attainment, in this study they do not differ in their perceptions toward the extent of ethical work environment. This result implies that an employee who has doctorate degree may not probably make him/her better perceiver toward the extent of ethical work environment than other employees who have Bachelor’s degree, Bachelor’s degree with MA units, Master’s degree, and Master’s degree with doctoral units, or vice versa.

Moreover, it can be inferred further that employees and middle level administrators of public HEIs in Sulu, though differ in educational attainment, generally have the same fashion of perceiving the ways how their schools/universities give priorities to employee rights, fair procedures, and equity in pay and promotion, and that promote tolerance, compassion, loyalty and honesty in the treatment of clienteles and employees.

Hence, it is safe to say that variable educational attainment has no significant influence in the ways how employees of public HEIs in Sulu perceive the extent of ethical work environment. Therefore, the hypothesis which states that “There is no significant difference in the extent of ethical work environment of employees and middle-level

administrators of public higher education institutions (HEIs) when data are classified according to educational attainment" is accepted.

Table 5.1 Differences in the extent of work engagement of employees and middle- level administrators of public higher education institutions (HEIs) when data are classified according to length of service

SOURCES OF VARIATION		Sum of Square	df	Mean Square	F	Sig.	Description
Vigor	Between Groups Within Groups Total	.846 52.890 53.735	3 186 189	.282 .284	.991	.398	Not Significant
Dedication	Between Groups Within Groups Total	.989 63.201 64.190	3 186 189	.330 .340	.970	.408	Not Significant
Absorption	Between Groups Within Groups Total	2.529 64.755 67.284	3 186 189	.843 .348	2.421	.067	Not Significant

**Significant at alpha 0.05*

Table 5.1 presents the differences in the extent of work engagement of employees and middle-level administrators of public higher education institutions (HEIs) when data are classified according to length of service. It can be gleaned from this table the F-values and Probability-values of all sub-categories subsumed under work engagement are not significant at alpha .05. This means that, although respondents differ in their length of service, generally they do not differ in their perceptions toward the extent of work engagement prevailing among the public HEIs. This result implies that, for an employee to have been in service for 26 years & above, may not probably make him/her better perceiver toward the extent of work engagement than other respondents who have working for 5 years & below, 6-15 years, and 16-25 years, or vice versa.

Moreover, it can be inferred further that regardless of being new or old, employees of HEIs in Sulu have similar ways of perceiving the level of enthusiasm and dedication a worker feels toward their job. Also, they have similar judgment on how HEIs employees care about their work and about the performance, and feel that their efforts make a difference.

Hence, it is safe to say that variable length of service has no significant influence in the ways how employees and middle-level administrators of public HEIs in Sulu perceive the extent of work engagement. Therefore, the hypothesis which states that "There is no significant difference in the work engagement of employees and middle-level

administrators of public higher education institutions (HEIs) when data are classified according to length of service" is accepted.

Table 5.2 Differences in the extent of work engagement of employees and middle- level administrators of public higher education institutions (HEIs) when data are classified according to status of appointment

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Vigor	Between	2.252	2	1.126	4.089*	.018	Significant
	Within Groups	51.484	187	.275			
	Total	53.735	189				
Dedication	Between	1.118	2	.559	1.657	.194	Not Significant
	Within Groups	63.072	187	.337			
	Total	64.190	189				
Absorption	Between	.132	2	.066	.184	.832	Not Significant
	Within Groups	67.152	187	.359			
	Total	67.284	189				

**Significant at alpha 0.05*

Table 5.2 presents the differences in the extent of work engagement of employees and middle-level administrators of public higher education institutions (HEIs) when data are classified according to status of appointment. It can be gleaned from this table that the F-values and Probability-values of all sub-categories subsumed under work engagement are not significant at alpha .05. This means that, although respondents differ in their appointment status, generally they do not differ in their perceptions toward the extent of work engagement prevailing in their respective public HEIs. This result implies that, for an employee to have permanent work status may not probably make him/her better perceiver toward the extent of work engagement than other respondents who have temporary and contractual appointment, or vice versa.

Moreover, it can be inferred further that regardless of permanent or temporary, employees of HEIs in Sulu have similar ways of perceiving the level of enthusiasm and dedication a worker feels toward their job. Also, they have similar judgment on how HEIs employees care about their work and about the performance, and feel that their efforts make a difference.

Hence, it is safe to say that variable status of appointment has no significant influence in the ways how employees and middle-level administrators of public HEIs in Sulu perceive the extent of work engagement. Therefore, the hypothesis which states that "There is no significant difference in the work engagement of employees and middle- level administrators of public higher education institutions (HEIs) when data are classified according to status of appointment" is accepted.

Table 5.3 Differences in the extent of work engagement of employees and middle- level administrators of public higher education institutions (HEIs) when data are classified according to educational attainment

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Vigor	Between	3.961	4	.990	3.681*	.007	Significant
	Within Groups	49.774	185	.269			
	Total	53.735	189				
Dedication	Between	4.810	4	1.202	3.746*	.006	Significant
	Within Groups	59.380	185	.321			
	Total	64.190	189				
Absorption	Between	3.995	4	.999	2.919*	.023	Significant
	Within Groups	63.289	185	.342			
	Total	67.284	189				

**Significant at alpha 0.05*

Table 5.6 presents the differences in the extent of work engagement of employees and middle-level administrators of public higher education institutions (HEIs) when data are classified according to educational attainment. It can be gleaned from this table that the F-values and Probability-values of all sub-categories subsumed under work engagement are indeed significant at alpha .05. This means that, although respondents differ in their educational attainment, generally they really differ in their perceptions toward the extent of work engagement prevailing in their respective public HEIs. This result implies that, for an employee to have doctorate degree may probably make him/her better perceiver toward the extent of work engagement than other respondents who have Bachelor's degree, Bachelor's degree with MA units, Master's degree, and Master's degree with doctoral units, or vice versa.

Moreover, it can be inferred further that employees of HEIs in Sulu with levels of educational background indeed differ in ways how they perceive the level of enthusiasm and dedication a worker feels toward their job. Also, they have similar judgment on how HEIs employees care about their work and about the performance, and feel that their efforts make a difference.

Hence, it is safe to say that variable educational attainment has indeed significant influence in the ways how employees and middle-level administrators of public HEIs in Sulu perceive the extent of work engagement. Therefore, the hypothesis which states that "There is no significant difference in the work engagement of employees and middle- level administrators of public higher education institutions (HEIs) when data are classified according to educational attainment" is rejected.

Table 5.3.1 Post Hoc Analysis: Differences in the work engagement among employees and middle-level administrators on public HEIs in Sulu in terms of Vigor, Dedication, and Absorption when data are categorized according to educational attainment.

Dependent Variables	(I) Grouping by Educational Attainment	(J) Grouping by Educational Attainment	Mean Difference (I-J)	Std. Error	Sig.
Vigor	Master's degree	Bachelor's degree	.27718	.11688	.234
		Bachelor' degree w/ MA units	.31755*	.09692	.033
		Master's degree w/ doctoral units	.36169*	.11572	.048
		Doctorate degree	.17593	.16554	.889
Dedication	Master's degree	Bachelor's degree	.42342*	.12766	.030
		Bachelor' degree w/ MA units	.02247	.10586	1.000
		Master's degree w/ doctoral units	.12523	.12639	.912
		Doctorate degree	-.13519	.18081	.967
Absorption	Master's degree	Bachelor's degree	.43100*	.13180	.033
		Bachelor' degree w/ MA units	.22723	.10929	.367
		Master's degree w/ doctoral units	.15799	.13048	.832
		Doctorate degree	.06944	.18667	.998

**The mean difference is significant at the 0.05 level*

Post Hoc Analysis using Scheffe's Test was conducted to determine which among groups classified according to educational attainment to have different levels of mean in areas subsumed under the work engagement as perceived by employees and idle-level administrators of public higher education institutions in Sulu.

The result of the analysis which is shown in Table 5.6.1 indicates that the difference in the means of the Vigor, Dedication and Absorption are obtained by way of lower group means minus higher group means.

a) **On Sub-category Vigor**: It shows that Master's Degree group of respondents obtained the mean difference of .36169* with Standard Error of .11572 and *p* value of .048 which is significant at alpha=.05 over Master's Degree with doctoral units. So, under this sub-category, no other groups of respondents supposed to have better ways of perceiving the work engagement in terms of Vigor among employees and middle-level administrators of public HEIs in Sulu than those with Master's degree.

b) **On Sub-category Dedication**: It shows that Master's Degree group of respondents obtained the mean difference of .42342* with Standard Error of

.12766 and p value of .030 which is significant at alpha=.05 over Bachelor's Degree. So, under this sub-category, no other groups of respondents supposed to have better ways of perceiving the work engagement in terms of Dedication among employees and middle-level administrators of public HEIs in Sulu than those with Master's degree.

c) **On Sub-category Absorption:** It shows that Master's Degree group of respondents obtained the mean difference of .43100* with Standard Error of
.13180 and p=value of .033 which is significant at alpha=.05 over Bachelor's Degree. So, under this sub-category, no other groups of respondents supposed to have better ways of perceiving the work engagement in terms of Absorption among employees and middle-level administrators of public HEIs in Sulu than those with Master's Degree.

Table 6. Correlation between the extent of sub-categories subsumed under ethical work environment and work engagement among employees and middle-level administrators of public HEIs in Sulu

Variables		Pearson *r*	Sig	N	Description
Dependent	**Independent**				
Egoistic Work Environment	Deontological	.427**	.000	190	Moderate
	Utilitarian	.237**	.001	190	Moderate
	Vigor	.348**	.000	190	Moderate
	Dedication	.014	.845	190	Nearly Zero
	Absorption	.271**	.000	190	Low
Deontological Work Environment	Utilitarian	.632**	.000	190	High
	Vigor	.503**	.000	190	High
	Dedication	.428**	.000	190	Moderate
	Absorption	.484**	.000	190	Moderate
Utilitarian Work Environment	Vigor	.411**	.000	190	Moderate
	Dedication	.442**	.000	190	Moderate
	Absorption	.427**	.000	190	Moderate
Vigor	Dedication	.589**	.000	190	High
	Absorption	.666**	.000	190	High
Dedication	Absorption	.668**	.000	190	High

**Correlation Coefficient is significant at alpha .05*
Correlation Coefficient Scales Adopted from Hopkins, Will (2002):
0.0-0.1=Nearly Zero; 0.1-0.30=Low; .3-0.5 0=Moderate; .5-0.7-0=High; .7-0.9= Very High; 0.9-1=Nearly Perfect

Table 6 illustrates the correlation among the sub-categories subsumed under the extent of Ethical Work Environment (Egoistic ethical behavior, Deontological Ethical behavior, and Utilitarian Ethical behavior) and Work Engagement (Vigor, Dedication, and Absorption) among employees and middle-level administrators of public HEIs in Sulu.

Specifically, the degrees of correlations among the sub-categories subsumed under ethical work environment and work engagement are as follows:

1) Low positive correlation between Egoistic ethical behavior AND Deontological Ethical behavior, Utilitarian Ethical behavior, Vigor, Dedication, and Absorption;
2) High correlation between Deontological Ethical behavior AND Utilitarian Ethical behavior, Vigor, Dedication, and Absorption;
3) Moderate positive correlation between Utilitarian Ethical behavior AND Vigor, Dedication, and Absorption;
4) High positive correlation between Vigor AND Dedication, and Absorption;
5) High positive correlation between Dedication AND Absorption.

These results indicate that the employees and middle-level administrators of public HEIs in Sulu who generally perceived the extent of ethical work environment in terms of Egoistic, Deontological and Utilitarian as "Agree" or "High Tendency" are most probably the same group of employees and middle-level administrators who perceived the work environment in terms of Vigor, Dedication, and Absorption as "Agree" or "High Tendency".

Meanwhile, it is safe to say that, generally the extent of sub-categories subsumed under ethical work environment and work engagement are highly correlated.

Therefore, the hypothesis which states that, "There is no significant correlation among the sub-categories subsumed under ethical work environment and work engagement" is rejected.

Conclusions

This study concludes that:

1) There is sufficient representation of employees and middle-level of public HEIs in Sulu in terms of length of service, status of appointment, and educational attainment.

2) On the average, employees and middle-level administrators of public HEIs in Sulu have high tendency of providing priority to employee rights, fair procedures, and equity in pay and promotion, and that promote tolerance, compassion, loyalty and honesty in the treatment of clienteles and employees.

3) On the average, employees and middle-level administrators of public HEIs in Sulu have high tendency of ensuring their workers with high level of enthusiasm and dedication toward their job.

4) Variables length of service, status of appointment, and educational attainment do not influence on ways how employees and middle-level administrators of public HEIs perceive the extent of ethical work environment.

5) Except for educational attainment, variables length of service, and status of appointment do not influence on ways how employees and middle-level administrators of public HEIs perceive the extent of work engagement.

6) Sub-categories subsumed under ethical work environment and work engagement are highly correlated.

7) With high correlation between ethical work environment and work engagement, this particular study tends to support the theoretical models proposed by Rothman (2017) Ethical Philosophical Constructs and Bakker's (2011) Work

Engagement Model.

Recommendations

This study recommends that:

1) Public HEIs in Sulu should continue enhancing their best practices in providing priority to employee rights, fair procedures, and equity in pay and promotion, and that promote tolerance, compassion, loyalty and honesty in the treatment of clienteles and employees.

2) Administrators of public HEIs in Sulu should also continue enhancing their respective programs on ensuring their workers with high level of enthusiasm and dedication toward their jobs.

3) Moreover, student-researchers in the field of public administration are encouraged to conduct study similar to this one but to include other variables such as work performance and positions/ranks in some other settings.

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Compliance with Ethical Standards

The researcher declares that an informed consent was obtained from the respondents. Likewise, the anonymity of the respondents and the confidentially of the data gathered from the respondents are safeguarded. The researcher also assures that plagiarism was strictly observed and that there was no bias in the interpretation of the findings and that the results were used purely for research

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ETHICAL LEADERSHIP SKILLS OF ELEMENTARY SCHOOL ADMINISTRATORS OF LUGUS DISTRICT, MINISTRY OF BASIC, HIGHER AND TECHNICAL EDUCATION – SULU: TEACHERS' PERSPECTIVES

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ABSTRACT

The study is a descriptive research which deals with the extent of leadership skills of elementary school administrators of Lugus District, MBHTE – Sulu. Along with discussing the demographic profiles of the teacher respondents in terms of gender, educational attainment, marital status, and length of service, it also discusses the level of leadership that the elementary school administrators of MBHTE – Sulu, Lugus District, possess in terms of dependability, decisiveness, integrity, and problem solving.It also deals with the significant difference in the extent of leadership skills of elementary school administrators of Lugus District, MBHTE – Sulu when data are grouped according to demographic profile in terms of gender, educational attainment, civil status, and length of service, and the significant correlation among the subcategories subsumed under the extent of leadership skills of elementary school administrators as perceived by teachers at Lugus District, MBHTE – Sulu. The study was conducted at Lugus District. The respondents of the study are the elementary school teachers of Lugus District. Purposive sampling technique was used in selecting the respondents of the study. The research instrument is composed of two parts. Part I is about the demographic profile of the respondents which includes their gender, educational attainment, civil status, and length of service. Part II is composed of 10 statements each on decisiveness, integrity, problem solving, and dependability. There are 5 levels to choose from which ranges from "always" to "never". It was found that female respondents comprise the majority, finished baccalaureate degree only, mostly married, and quite old in the service. The respondents indicated **often** to decisiveness, integrity, and dependability. However, they indicated **sometimes** to problem solving. There is no significant difference in the extent of ethical leadership skills of elementary

school administrators as perceived by teachers of Lugus District in terms of demographic profile. There is a very high to high correlation among the four factors.

Keywords: *Ethical Leadership Skills, MBHTE-SULU, Teacher's Perspective, Elementary School Administrator, Descriptive Research*

INTRODUCTION

Leaders that are ethical honors everyone, from their superiors to their employees, equally. Ethical leadership skills of school administrator are one of the crucial factors that can affect teaching and learning practices in formal education. The school administrator faces many components of the educational problem that requires specific ethical leadership skills to address these components. Decisions making is one from the skills sufficient to develop solutions of the problems met. The school administrator equipped with decision making techniques would be easily developed solutions to the school problem. Another special skills of an ethical leader should possess is integrity, moral principles or professional standards. Since, the educational school systems are composed of mainly the students, teachers and the school administrator. The school administrator does not only focus his attention in the consequences of academic importance, but also consider the relationship among the teachers and students as well. Hence the ethical leadership skills of school administrator should develop team building strategies, which eventually contribute to the improvement of academic excellence. Collaborative efforts of the teachers and school administrator to address common problems in academic performance easily overcome the consequences of poor teaching and learning performance. The improvement of academic performance in the formal school system cannot be accomplished with the sole movement of the school administrator alone. As much as possible the whole school classroom teachers, and stakeholders must consider the problem of poor academic performance, thus the school administrator must possess with ethical leadership skills of dependability. The stakeholders support the school administrator when the school administrator can be trust. The support of the teachers, parents and stakeholders, of course, identify according to the task they can be utilized for solving the specific problem. But, appropriately, the school administrator can take the responsibility of distributing the task to be accomplished by individuals or group for purposes of improving academic performance and school development as a whole.

Poor ethical behavior and a lack of ethical leadership abilities are two of the biggest issues facing businesses today, according to a thorough qualitative study by Plinio, Young, and Lavery (2010). As such, the authors observe that a sluggish economy is making matters worse and that public confidence in leadership is declining. The authors also saw a concerning rise in employee malfeasance across the board. According to

Darcy (2010), there is currently skepticism about ethics in organizations. According to the results of a qualitative study the author conducted, 66% of respondents doubt the existence of ethics in leadership. The author describes this as "a crisis of trust."

The study's result indicated that a lack of trust is currently the largest issue facing both individuals and businesses. The "shadow side" of leadership, as defined by Frank (2002), is the cause of this lack of trust. The negative effects of "power, privilege, deception, inconsistency, irresponsibility, and misplaced loyalties" are among these shadows. Unfortunately, followers eventually learn about the negative effects of these covert actions and come to doubt the honesty of their leader. This has sparked a wave of studies and publications on the subject of moral leadership abilities. According to Yukl (2006), an ethical leader is one who upholds integrity and aligns their behavior with their principles and convictions. The author does concede, though, that the concept of ethical leadership is nebulous and has many moving parts. It could be challenging to assess ethical leadership abilities as a result.

Elementary school teachers in the Lugus District, and MBHTE-Division of Sulu, where they work and are presumably the recipients of skills exposed by Lugus District school administrators, present the researcher with the challenge of bringing attention to this issue and conducting research on it. Thus, this point of view influenced the design of the study, and the investigator collected primary data and information that helped the MBHTE - Sulu consider the real reasons behind certain educational problems as well as the duties and obligations of school administrators, especially their capacity for moral leadership.

In response to inquiries about leadership, Keinwood (2012) stated that a principal in the modern day needs to possess strong team-building abilities that enable teachers to collaborate with one another in any situation. Creating professional learning communities (PLCs) is even more significant in this environment; for instance, the principal is in charge of setting extremely specific expectations for PLC members' work.

Research Questions

This study aimed to determine the extent of ethical leadership skills of elementary school administrators, as perceived by teachers of Lugus District, Ministry of Basic Higher and Technical Education in Sulu during the School Year 2023-2024.

Specifically, it seeks to find answers to the following queries upon its very completion:

1. What is the demographic profile of the elementary school teacher-respondents of Lugus District, MBHTE-Sulu in terms of;
   1.1 Gender;
   1.2 Educational Attainment;
   1.3 Civil Status; and

1.4 Length of Service?

2. What is the extent of ethical leadership skills of elementary school administrators, as perceived by the teachers of Lugus District, MBHTE-Sulu in the context of:
   2.1 Decisiveness;
   2.2 Integrity;
   2.3 Problem Solving; and
   2.4 Dependability?
3. Is there a significant difference in the extent of ethical leadership skills of elementary school administrators as perceived by the teachers of Lugus District, MBHTE-Sulu when data grouped according to their demographic profile in terms of:
   3.1 Gender;
   3.2 Educational Attainment;
   3.3 Civil Status; and
   3.4 Length of Service?
4. Is there a significant correlation among the subcategories subsumed under the extent of ethical leadership skills of elementary school administrators as perceived by the teachers of Lugus District, MBHTE-Sulu?

METHODOLOGY

Research Design

This study used survey descriptive research design. Survey research descriptive design is a research procedure which involves the survey research instrument to gathered information of elementary school administrator ethical leadership skills. Descriptive research was involved in the analysis of data based on the current existing situation that is the description of the elementary school administrator of ethical leadership skills in Lugus District, MBHTE-Sulu.

Research Locale

This study was conducted at 17 schools of Lugus District, MBHTE-Sulu Municipality of Lugus. It has eight (8) elementary schools level and nine (9) primary school level. Each school is managed by School Head (SH) or Teacher In-Charge (TIC) who are termed in this study as the school administrator. It is an island district accessible through the sea only.

Respondents of the Study

This study used all the school administrators and teachers of Lugus District, MBHTE-Sulu. The study used purposive sampling design. The study was conducted in Lugus District, MBHTE-Sulu, so the respondents were the teachers of Lugus District. The distribution of the respondents is shows in table A. The name of the schools is found on the left part below.

Table A

DISTRIBUTION OF RESPONDENTS

No.	Schools	Actual Teachers			Respondents		TOTAL
		Male	Female	Total	Male	Female	
1	Alu Duyong ES	4	9	13	3	11	14
2	Laud Alu PS	1	2	3	1	2	3
3	Lahud PS	1	3	4	1	3	4
4	Bas Nunuk ES	0	8	8	0	7	7
5	Bas Mangkallay ES	1	7	8	1	6	7
6	Lugus Central School	1	6	7	1	5	6
7	Bas Lugus CS-Annex	1	2	3	1	2	3
8	Parian Kayawan ES	1	8	9	1	7	8
9	Boli Pongpong PS	2	3	5	1	2	3
10	Rugasan ES	1	6	7	1	6	7
11	Gapas PS	1	2	3	1	2	3
12	Guimba Pait PS	1	5	6	1	4	5
13	Sibul PS	1	3	4	1	3	4
14	Tangkulan ES	5	10	15	4	10	14
15	Hadji Sali Tammang PS	0	4	4	0	3	3
16	Tubba Bas PS	0	3	3	0	2	2
17	Tingkangan ES	1	6	7	1	6	7
	TOTAL	**22**	**87**	**109**	**19**	**81**	**100**

Sampling Design

The purposive sampling design was used in the selection of respondents for the study. It is a design with a purpose and the purpose is to select 100 respondents of the study.

Research Instrument

The instrument of this study was adapted from the questionnaires of the Observer-Assessment for Breaking Ranks Leaders of the National Association of Elementary School Principals (NAESP, 2010) supported by the questionnaire of Precilla, et. al. (2016). The questionnaire was revised to suit the objectives of this study. This questionnaire is divided into two parts: Parts I inquires the profile of the respondents in terms of gender, educational attainment, civil status, and the length of service. Part II inquires the opinions on the leadership skills of elementary school administrators of Lugus District, MBHTE-Sulu in terms of decisiveness, integrity, problem solving, and dependability.

Data Gathering Procedure

The following sequence were followed by the researcher in data gathering:

1. Request approval from Sulu State College's Graduate Studies office.
2. Request approval from the MBHTE-Sulu office of the superintendent.
3. Present endorsement letter to the District Focal Person and School Principals.
4. The researcher personally gave the questionnaire to each teacher when the request for authorization was granted.
5. Upon completion of the questionnaire, the researcher will retrieve the questionnaire on the same or following day.
6. Upon completion of the questionnaires' retrieval, the researcher tallied the responses on the competition of raw data. The analysis and interpretation were done with the assistance of the thesis adviser.

Statistical Treatment of Data

The research questions served as a guide for this study. The statistical tools that were used are identified according to the nature of the problem. The problem, "What is the demographic profile of the elementary school teachers of Lugus District, MBHTE-Sulu in terms of gender, educational attainment, civil status, and length of service?" frequently percentage distribution was used.

The problem, "What the extent of ethical leadership skills of elementary school administrators is as viewed in the context of decisiveness, honesty, problem solving, and dependability by the instructors of Lugus District, MBHTE-Sulu? Standard deviation and mean were applied.

The problem, "Is there significant difference on the extent of ethical leadership skills of elementary school administrators as viewed in the context of decisiveness, honesty, problem solving, and dependability by the instructors of Lugus District, MBHTE-Sulu?" Gender was assessed using the T-test, while duration of service, educational achievement, and civil status were assessed using a One-Way ANOVA.

The problem, "Is there a significant correlation among the subcategories subsumed under the extent of ethical leadership skills of elementary school administrators as viewed in the context of decisiveness, honesty, problem solving, and dependability by the instructors of Lugus District, MBHTE-Sulu?" Pearson Product – Moment Correlation was used.

RESULTS

1. ***What is the demographic profile of the elementary school teacher – respondents of Lugus District, MBHTE - Sulu in terms of 1.1 gender, 1.2 educational attainment, 1.3 civil status, and 1.4 length of service?***

Demographic Profile of the Respondents in terms of Gender

Table 1.1 shows the demographic profile of the respondents in terms of gender. Sixty - nine percent (69%) of the respondents are females and 31% are males.

Table 1.1 Demographic Profile of the Respondents in terms of Gender

Gender	Frequency	Percentage
Male	31	315
Female	69	69%
TOTAL	100	100%

Demographic Profile of the Respondents in terms of Educational Attainment.

Table 1.2 presents the demographic profile of the respondents in terms of educational attainment.

It shows that 66% of the respondents finished Baccalaureate Degree only while only 2% finished Doctorate Degree.

Table 1.2 Demographic Profile of the Respondents in terms of Educational Attainment

Educational Attainment	Frequency	Percentage
Baccalaureate Degree	66	66%
With M.A. Units	21	21%
Master's Degree	9	9%

With Doctorate units	2	2%
Doctorate Degree	2	2%
TOTAL	100	100%

Demographic Profile of the Respondents in terms of Civil Status.

Table 1.3 presents the demographic profile of the respondents in terms of civil status.

It showed that 65% of the respondents are married and only 6% are either widow or separated.

Table 1.3 Demographic Profile of the Respondents in terms of Civil Status.

Civil Status	Frequency	Percentage
Single	29	29%
Married	65	65%
Widow/Separated	6	6%
TOTAL	100	100%

1.4 Demographic Profile of the Respondents in terms of Length of Service.

Table 1.4 presents the demographic profile of the respondents in terms of length of service.

It showed that 35% of the teachers are 16 years and above already in service and only 14% are 5 years and below in service.

Table 1.4 Demographic Profile of the Respondents in terms of length of Service

Length of Service	Frequency	Percentage
5 years and below	14	14%
6 – 10 years	30	30%
11 – 15 years	21	21%
16 years and above	35	35%
TOTAL	100	100%

2. What is the extent of ethical leadership skills of elementary school administrators as viewed in the context of decisiveness, honesty, problem solving, and dependability by the instructors of Lugus District, MBHTE-Sulu in the context of 2.1 decisiveness, 2.2 integrity, 2.3 problem solving, and 2.4 dependability?

Table 2.1 presents the extent of ethical leadership skills of elementary school administrators as viewed by the teachers of Lugus District, MBHTE – Sulu in the context of decisiveness.

It showed that the respondents indicated from ***often*** to ***sometimes*** on the different statements in the context of decisiveness. Among those they indicated ***often*** are; my school head measures the possibility of success in its decision – making (mean = 3.850, SD =1.048); and my school head is willing to consider other options when making decisions (mean = 3.790, SD = 1.320). For ***sometimes***, some of the statements are; my school head imparts knowledge about the science of making decisions (mean = 3.450, SD = 1.486); and my school heads' decision – making is influence by external stakeholders' demands (mean = 3.350, SD = 1.336). The average mean of 3.622 means that ethical leadership skills of elementary school administrators ***often*** influenced the teachers of Lugus District, MBHTE – Sulu in the context of decisiveness.

Table 2.1 Extent of the Ethical Leadership Skills of Elementary School Administrators as viewed by the Teachers of Lugus District, MBHTE – Sulu in the Context of Decisiveness.

Decisiveness	Mean	SD	Interpretation
1. My school head evaluates the impact of the decision he/she makes.	3.720	1.349	Often
2. My school heads' decision – making is transparent.	3.570	1.174	Often
3. My school heads' decision – making is consistent.	3.650	1.234	Often
4. My school heads' decision – making is influence by external stakeholders' demands.	3.350	1.336	Sometimes
5. My school head quantifies the probability of success in its decision – making.	3.850	1.048	Often
6. My school head is open to using alternatives in its decision – making.	3.790	1.320	Often
7. My school head considers uncertainties in relation to its decision – making.	3.540	1.493	Often
8. My school head re – examines its decision – making as new information becomes available.	3.550	1.167	Often
9. My school head uses a structured approach in its decision – making.	3.570	.924	Often
10. My school head provides training in the science of decision – making.	3.450	1.486	Sometimes
AVERAGE	**3.622**		**OFTEN**

LEGEND

SCALE	RANGE	INTERPRETATION
5	4.50 – 5.00	Always
4	3.50 – 4.49	Often
3	2.50 – 3.49	Sometimes
2	1.50 – 2.49	Rarely
1	1.00 – 1.49	Never

Table 2.2 presents the extent of ethical leadership skills of elementary school administrators as viewed by the teachers of Lugus District, MBHTE – Sulu in the context of integrity.

The respondents indicated ***often*** in almost all statements except in statement 4 where they indicated ***sometimes*** and that statement is; my school head update teachers on the school expenditures (mean = 3.440, SD = 1.493). For often, some of the statements are; my school head is trustworthy (mean = 4.480, SD = .759); my school head emphasize integrity in the performance of work (mean = 4.400, SD = 2.958); and my school head avoids spending the school MOOE on unnecessary things (mean = 4.360, SD = .732). The average mean of 4.065 means that ethical leadership skills of elementary school administrators ***often*** influenced the teachers of Lugus District, MBHTE – Sulu in the context of integrity.

Table 2.2 Extent of the Ethical Leadership Skills of Elementary School Administrators as viewed by the Teachers of Lugus District, MBHTE – Sulu in the Context of Integrity.

Integrity	Mean	SD	Interpretation
1. My school head is trustworthy.	4.480	.759	Often
2. My school head emphasize integrity in the performance of work.	4.400	2.958	Often
3. My school head provides a transparency board in school.	4.110	1.024	Often
4. My school head update teachers on the school expenditures.	3.440	1.493	Sometimes
5. My school head trust teachers to do their work even without his observation.	3.640	1.299	Often
6. My school head avoids spending the school MOOE on unnecessary things.	4.360	.732	Often
7. My school head has proven to us that he can be trusted.	4.040	1.363	Often
8. My school head demands integrity in dealing with the learners.	4.020	1.356	Often

9. My school head trusts the teacher's decision in dealing with the learners.	3.870	1.361	Often
10. My school head is trusted so much by the District Supervisor.	4.290	.729	Often
AVERAGE	**4.065**		**OFTEN**

LEGEND

SCALE	RANGE	INTERPRETATION
5	4.50 – 5.00	Always
4	3.50 – 4.49	Often
3	2.50 – 3.49	Sometimes
2	1.50 – 2.49	Rarely
1	1.00 – 1.49	Never

Table 2.3 presents the extent of ethical leadership skills of elementary school administrators as viewed by the teachers of Lugus District, MBHTE – Sulu in the context of problem solving.

The respondents indicated ***sometimes*** in all statements in the context of problem solving. Some of those statements are; my school head understands everyone's interests (mean = 3.210, SD = 1604); my school head reviews the results of his decisions (mean = 3.370, SD = 1.727); and my school head implement the best possible solution to the problem (mean = 3.460, SD =1.7)78. The average mean of 3.301 means that ethical leadership skills of elementary school administrators ***sometimes*** influenced the teachers of Lugus District, MBHTE – Sulu in the context of problem solving.

Table 2.3 Extent of the Ethical Leadership Skills of Elementary School Administrators as viewed by the Teachers of Lugus District, MBHTE – Sulu in the Context of Problem Solving.

Problem Solving	Mean	SD	Interpretation
1. My school head identify the issues.	3.290	1.665	Sometimes
2. My school head understand everyone's interests.	3.210	1.604	Sometimes
3. My school head list the possible solutions.	3.330	1.710	Sometimes
4. My school head evaluate the options.	3.090	1.498	Sometimes
5. My school head select an option or options.	3.230	1..620	Sometimes
6. My school head document the agreement(s).	3.270	1.651	Sometimes
7. My school head agree on contingencies,			

monitoring, and evaluation.	3.470	1.784	Sometimes
8. My school head use trial and error in solving a problem.	3.290	1.671	Sometimes
9. My school head review the results of his decisions.	3.370	1.727	Sometimes
10. My school head implement the best possible solution to the problem.	3.460	1.778	Sometimes
AVERAGE	**3.301**		**SOMETIMES**

LEGEND

SCALE	RANGE	INTERPRETATION
5	4.50 – 5.00	Always
4	3.50 – 4.49	Often
3	2.50 – 3.49	Sometimes
2	1.50 – 2.49	Rarely
1	1.00 – 1.49	Never

Table 2.4 presents the extent of ethical leadership skills of elementary school administrators as viewed by the teachers of Lugus District, MBHTE – Sulu in the context of dependability.

The respondents indicated from ***often*** to ***sometimes*** on the different statements in the context of decisiveness. For ***often***, some of those statements are; my school head conducts a step – by – step procedure in problem solving (mean = 3.790, SD = 1.320); and my school heads' decision is stable (mean = 4.320, SD =2.831). for ***sometimes***, some of the statements are; my school head provides detached description of the problem (mean = 3.390, SD = 1.100); and my school head encourages teachers to participate in the analysis process of a problem (mean = 3.340, SD = 1.760). The average mean of 3.665 means that ethical leadership skills of elementary school administrators ***often*** influenced the teachers of Lugus District, MBHTE – Sulu in the context of dependability.

Table 2.4 Extent of the Ethical Leadership Skills of Elementary School Administrators as viewed by the Teachers of Lugus District, MBHTE – Sulu in the Context of Dependability.

Dependability	Mean	SD	Interpretation
1. My school head encourages teachers to participate in the analysis process of a problem.	3.340	1.760	Sometimes
2. My school head provides detached description	3.390	1.100	Sometimes

of the problem.			
3. My school head conducts a step – by – step procedure in problem solving.	3.790	1.320	Often
4. My school head is consistent with his/her decisions.	3.760	1.288	Often
5. My school head's decision is reliable, steady, and trustworthy.	3.810	1.022	Often
6. My school heads' decision is stable.	4.230	2.831	Often
7. My school head builds trust by holding himself/herself accountable.	3.490	1.210	Sometimes
8. My school head makes the teachers safe and secured with his decisions.	3.690	1.261	Often
9. My school head has the ability to provide services that can be trusted.	3.560	1.506	Often
10. My school heads' credibility is tested.	3.590	1.190	Often
AVERAGE	**3.665**		**OFTEN**

LEGEND

SCALE	RANGE	INTERPRETATION
5	4.50 – 5.00	Always
4	3.50 – 4.49	Often
3	2.50 – 3.49	Sometimes
2	1.50 – 2.49	Rarely
1	1.00 – 1.49	Never

3. Is there a significant difference in the extent of ethical leadership skills of elementary school administrators as viewed in the context of decisiveness, honesty, problem solving, and dependability by the instructors of Lugus District, MBHTE-Sulu?

The t-test was used for gender since there are only two categories. The sig. value of 0.469 for decisiveness is greater than the p – value of .05, the sig. value of 0.790 for integrity is greater than the p – value of .05, the sig. value of 0.615 for problem solving is greater than the p – valu of .05, and the sig. value of o.660 for dependability is also greater than the p – value of .05. It means that the null hypothesis is accepted.

There is no significant difference in the extent of ethical leadership skills of elementary school administrators as viewed by the teachers of Lugus District, MBHTE - Sulu when data are grouped according to their gender.

Table 3.1 t – test for Significant Difference in the Extent of Ethical Leadership Skills of Elementary School Administrators as viewed by the Teachers of Lugus District in terms of Gender.

Variables	Grouping	Mean	SD	Mean Diff.	t	Sig.	Description
	Male	4.100	.630				Not
Decisiveness	Female	4.730	.750	0.63	28.490	.469	Significant
	Male	4.650	.550				Not
Integrity	Female	4.380	.720	0.27	29.150	.790	Significant
Problem	Male	4.210	.810				Not
Solving	Female	4.650	.790	0.44	28.650	.615	Significant
	Male	4.720	.580				Not
Dependability	Female	4.220	.490	0.50	27.590	.660	Significant

Significant at .05 level

In Table 3.2 Analysis of Variance (ANOVA) was used for educational attainment, civil status, and length of service.

The sig. value of 0.595 for educational attainment is greater than the p - value of .05, the sig. value of 0.341 for civil status is greater than the p-value at .05, and the sig. value of 0.414 for length of service is also greater than the sig. value of .05. It could only mean that the null hypothesis is accepted in terms of educational attainment, civil status, and length of service.

There is no significant difference in the extent of ethical leadership skills of elementary school administrators as perceived by the teachers of Lugus District, MBHTE - Sulu when data are grouped according to their educational attainment, civil status, and length of service.

Table 3.2 ANOVA for Significant Difference in the Extent of Ethical Leadership Skills of Elementary School Administrators as viewed in the context of decisiveness, honesty, problem solving, and dependability by the instructors of Lugus District, MBHTE-Sulu

	Sum of Square	df	Mean Square	f	Sig.	Interpretation
Educational Attainment						
Between Groups	1.647	4	.412	.714	.595	Not Significant
Within Groups	54.812	95	.577			
Total	54.459	99				
Civil Status						

	Between Groups	12.608	2	6.304	2.387	.341	Not Significant
		256.209	97	2.641			
	Within Groups	268.816	99				
	Total						
Length of Service							
	Between Groups	12.253	3	4.084	1.371	.414	Not Significant
		285.951	96	2.979			
	Within Groups	298.204	99				
	Total						

4. Is there a significant correlation among the subcategories subsumed under the extent of ethical leadership skills of elementary school administrators as perceived by the teachers of Lugus District, MBHTE – Sulu?

Pearson Product – Moment Correlation or Pearson r was used to determine if there is a significant correlation among the subcategories subsumed under the extent of ethical leadership skills of elementary school administrators as perceived by the teachers of Lugus District, MBHTE – Sulu.

The average value of r = 0.852 for decisiveness was interpreted as ***very high correlation*** while the average value of r = 0.658 for integrity was interpreted as ***high correlation*** at significant value of .05 two- tailed test, the average value of .820 for problem solving was interpreted as ***very high correlation*** and the average value of .830 for decisiveness was also interpreted as very high correlation.

Table 4. Significant Correlation in the Extent of Ethical Leadership Skills of Elementary School Administrators as Perceived by the Teachers of Lugus District, MBHTE - Sulu.

		Pearson r	Sig.	n	Description
Decisiveness	Integrity	.822	.000	100	Very High
	Problem Solving	.845	.000	100	Very High
	Dependability	.890	.000	100	Very High
	AVERAGE	**.852**			**VERY HIGH**
Integrity	Decisiveness	.666	.000	100	High
	Problem Solving	.533	.000	100	High
	Dependability	.775	.000	100	Very High
	AVERAGE	**.658**			**HIGH**
Problem Solving	Decisiveness	.835	.000	100	Very High
	Integrity	.809	.000	100	Very High
	Dependability	.817	.000	100	Very High
	AVERAGE	**.820**			**VERY HIGH**

	Decisiveness	.789	.000	100	Very High
	Integrity	.880	.000	100	Very High
Dependability	Problem	.821	.000	100	Very High
	Solving	**.830**			**VERY HIGH**
	AVERAGE				

*Correlation Coefficient is significant at £ = .05

Correlation Scales adapted from Hopkins (2002):

0.0– 0.1 = Nearly Zero; 0.1 – 0.3 = Low; 0.3 – 0.5 = Moderate; 0.5 – 0.7 = High; 0.7 – 0.9 = Very High; 0.9 – 1.0 = Nearly Perfect

DISCUSSION

1. ***On the demographic profile of the respondents in terms of gender, educational attainment, civil status, and length of service.***

The result showed that majority of the respondents are females, finished baccalaureate degree only, married, and 16 years and above in service.

It implies that the teachers of Lugus District are mostly females, most did not pursue graduate studies, with families of their own, and at one – third are at least 15 years and above in service.

2. ***On the extent of ethical leadership skills of elementary school administrators as perceived by the teachers of Lugus District MBHTE – Sulu in the context of decisiveness, integrity, problem solving, and dependability.***

The teachers of Lugus District perceived the ethical leadership skills of their administrators District are ***often*** seen in terms of decisiveness, integrity, and dependability. However, it is s***ometimes*** seen in terms of problem solving.

The result implies that the teachers perceived their administrators to practiced ethical leadership most of the time in terms of decisiveness, integrity, and dependability, and practiced problem solving from time to time.

According to Plinio (2009), persuading others to act morally is not the challenging aspect of ethical leadership abilities. Instead, the ambiguities around accountability for issues that develop present the complexity of ethical leadership. An ethical leader must therefore accept accountability for the outcomes of his choices.

Frank (2002) asserts that a lack of trust is currently the largest issue facing both individuals and organizations. The "shadow side" of leadership has been blamed for this

lack of confidence. Therefore, it is critical that instructors feel comfortable entrusting school officials with their trust and that they can be relied upon.

3. ***On the Significant difference in the extent of ethical leadership skills of elementary school administrators as perceived by the teachers of Lugus District, MBHTE – Sulu when data are grouped according to gender, educational attainment, civil status, and length of service.***

There is no significant difference in the extent of ethical leadership skills of elementary school administrators as perceived by the teachers of Lugus District, MBHTE – Sulu when data are grouped according to gender, educational attainment, civil status, and length of service.

The result implies that the different demographic profiles of the teachers of Lugus District cannot verify their perception on the extent of ethical leadership skills of their administrators.

4. ***On the significant correlation among the subcategories subsumed under the extent of ethical leadership skills of elementary school administrators as perceived by the teachers of Lugus District, MBHTE – Sulu.***

There is a ***very high correlation*** among the subcategories subsumed under the extent of ethical leadership skills of elementary school administrators of Lugus District in the context of decisive ness, integrity, and dependability. However, there is a ***high correlation*** in terms of problem solving.

The result simply implies that the ethical leadership skills of elementary school administrators of Lugus District differ to some degree especially in the context of problem solving.

Conclusions

The following was concluded based on the findings of the study:

The majority of primary school teachers in the Lugus District are female; a small percentage are pursuing graduate degrees, a small percentage remain unmarried, and one-third have worked there for more than 15 years.

It only showed that elementary school administrators of Lugus District practiced ethical leadership skills in terms of decisiveness, integrity, and dependability most of the time. But, they also practiced problem solving from time to time.

The absence of difference in the extent of ethical leadership skills of elementary school administrators of as perceived by the teachers of Lugus District could only mean that regardless of profile, they all practiced ethical leadership skills.

The very high to high correlation in the extent of ethical leadership skills of elementary school administrators as perceived by the teachers of Lugus District could only mean that the different factors ae interrelated to one another to some extent.

Recommendations

This study recommends the following:

1. A study on the effect of ethical leadership skills of elementary school administrators on the teachers' performance must be conducted.
2. Future researchers on the same topic should add variables like relevant trainings attended by administrators to see its effect on their leadership skills.
3. Teachers should constantly support their administrators for the good of the service.
4. Administrators should give their best in managing the school and serve as an inspiration and role model to the teachers.
5. Parents should try their best to support whatever endeavors the school will undertake for the good of their children.

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Compliance with Ethical Standards

In this study, the ethical care of all participants—especially the teachers at MBHTE-Sulu—is of utmost importance. While researching significant topics, the researcher made a consistent effort to uphold the respondents' right to privacy.

First and foremost, a thorough informed consent form explaining the study's objectives, procedures, potential benefits and dangers, and confidentiality guidelines was given to each participant. Furthermore, in situations where the respondents' individual information was unrelated to the trial data, every trial data point was meticulously anonymized. In order to protect participant privacy, data collection was done in a private setting, and the gathered information was stored in a safe archive that the researchers alone could access. In a same vein, respect was shown to every member notwithstanding differences in opinions and views. Furthermore, the researchers endeavored to furnish the participants with a safe and hospitable atmosphere, enabling them to freely discuss their experiences.

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EVALUATING PARENTAL ANXIETY: DEVELOPMENT OF A MULTIDIMENSIONAL ASSESSMENT INVENTORY

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ABSTRACT

The study titled "Evaluating Parental Anxiety: Development of a Multidimensional Assessment Inventory" aimed at creating a thorough inventory to assess parental anxiety across cognitive, emotional, behavioral, and physiological dimensions. This initiative was driven by the goal to facilitate targeted interventions that enhance family well-being. Developed through a comprehensive review of existing literature on parental anxiety and its various manifestations, the inventory's reliability was tested using a frequentist analysis, including Cronbach's α for measuring internal consistency across the different anxiety dimensions. The sample comprised a wide range of parents, ensuring the tool's applicability to diverse demographics. The results from the reliability analysis indicated high internal consistency within the inventory, with Cronbach's α scores of 0.928 for cognitive, 0.924 for emotional, 0.865 for behavioral, and 0.895 for physiological dimensions, reflecting 'Excellent' to 'Good' reliability. These findings affirm the inventory's capability in precisely measuring the complex nature of parental anxiety. The 95% confidence intervals further validated the scale's consistency, and the analysis demonstrated that the removal of individual items had a negligible effect on the overall reliability. Conclusively, the inventory emerges as a reliable and comprehensive tool for evaluating parental anxiety, with substantial implications for both clinical and research practices. Its multidimensional approach enables a nuanced understanding of parental anxiety, setting the stage for customized interventions. The study suggests avenues for future research, including further validation with diverse populations, longitudinal studies, and the integration of the inventory into intervention programs. This contribution is significant in providing a validated tool for assessing the intricate phenomenon of parental

anxiety, aimed at supporting interventions that promote healthier family dynamics and positive child development outcomes.

Keywords: *Parental anxiety, Inventory development, Reliability analysis, Multidimensional assessment, Family well-being*

INTRODUCTION

Parental anxiety is an intricate and pervasive issue with far-reaching implications on the dynamics within households and the developmental pathways of children. This form of anxiety is not a singular phenomenon but rather a complex interplay of various stressors and influences that collectively impact the quality of life for both parents and their children. As the body of research expands, it becomes increasingly evident that understanding parental anxiety in its full scope requires a detailed approach, one that acknowledges the myriad factors contributing to its manifestation.

Recent studies, such as the one by Thompson et al. (2022), have shed light on the transmission of anxiety from parents to children, indicating how parental behaviors driven by anxiety can significantly affect children's anxiety levels and behavioral outcomes. This direct impact underscores the importance of addressing parental anxiety not just for the parents' sake but also for the well-being and development of their children. Additionally, the work by Liu et al. (2023) explores economic factors as crucial determinants of parental anxiety, pointing to financial instability, socioeconomic status, and employment uncertainty as key contributors. This suggests an intersection between economic policy and family well-being, emphasizing the need for supportive measures that can alleviate financial stressors for families.

The role of digital technology in influencing parental anxiety has also come under scrutiny, with studies like Patel et al. (2022) highlighting the double-edged nature of technological advancements. While technology offers connectivity and access to information, it also poses challenges and anxieties related to children's online safety and the pressures of digital parenting. Furthermore, societal norms and cultural expectations regarding parenting roles play a significant role in the anxiety experienced by parents, as explored by Kim et al. (2023). This dimension of parental anxiety points to the necessity for culturally sensitive approaches that consider the diverse experiences of mothers and fathers.

The COVID-19 pandemic introduced unprecedented challenges, as documented by Gomez et al. (2024), emphasizing the heightened anxieties faced by parents due to health concerns, disruptions in daily routines, and the added stress of managing children's education from home. This period of crisis has illustrated the critical need for adaptive coping strategies and robust support systems for parents navigating these multifaceted stressors.

Given the complex nature of parental anxiety and its impact on families, creating a detailed tool to measure this anxiety is essential. This is not just to spot and gauge anxiety levels but also to guide specific help where it's needed.

Research Questions

The study sought to identify the reliability and validity of the newly developed anxiety inventory in assessing anxiety among parents. Specifically, it sought answers to the following questions:

1. What is the level of reliability of the anxiety inventory in measuring the anxiety manifestations of parents in terms of:
   1.1. cognitive,
   1.2. emotional,
   1.3. behavioral, and
   1.4. physiological?
2. What recommendations may be forwarded for the improvement of the mental health of parents particularly in handling anxiety?

METHODOLOGY

Participants

The participants of this study were the parents of the enrolled students at the two HEIs of Cebu City. They consist of 192 males (27.54%) and 505 females (72.46%) with a mean age of 41.19. It was conducted on the day the respective institutions held a parents' workshop on mental health. The workshop was facilitated by a Registered Psychologist and was assisted by guidance counselors, principals, teachers, psychometricians, and psychology interns.

Procedure

The HEIs where the study was conducted, respectively, had workshops about mental health for their institutions. They were held on different dates. During the registration and ushering of the participants, the tool and instructions were given to them. They were informed of the option of wanting to answer the survey or not.

Guidance counselors, teachers, and psychology student interns were strategically assigned within the venue to assist the participants with their concerns or clarifications.

The researcher then prepared the inventory to identify the level of stress of the research participants. An informed consent form was stated at the bottom page of the instrument for the research participants to sign should they agree to participate in the research conducted. An appointment was set with the guidance counselors of the two participating HEIs of Cebu City. The questionnaires were given to each department for review and reproduction.

Before the start of the workshop, a one-hour ushering-in activity was done, where participants were given the instruments and instructions. Guidance counselors, teachers, and psychology interns were strategically situated in the venue to assist at least 5-7 parents, making sure that someone would answer their questions or clarifications. Once the questionnaires were given to them, the consent forms were cut off and gathered, but they were placed separately to further keep the answers random and confidential.

All the questionnaires were then collated into one population. Each statement of the inventory and its corresponding answers were then tallied to produce their frequency and percentage in the population. The researcher then clustered the statements into tables that showed similarities in nature and labeled it with its respective theme.

Instrument

The Anxiety Inventory is a self-report tool used to gauge levels of anxiety of parents. A 4-point anchored scale is used to rate the frequency of each manifestation within a fourteen-day timeframe with 0 for Not at all, 1 for Less than half of the number of days in 2 weeks (1-6 days), 2 for More than half of the number of days in 2 weeks (7-13 days), and 3 for Always (Everyday). These constructs assessed various manifestations such as cognitive, emotional, behavioral, and physiological.

Scoring

Each statement in the inventory is scored based on how strongly the manifestations were felt during a specific period. A score of 0 indicates that the manifestations were not felt at all, while a score of 3 indicates that they were felt every day. Total scores were summed up to get the mean score and were classified as either No, Low, Moderate, and High.

Content Validity of the Instrument

In the development of the inventory, the crucial role of content validity was highlighted, emphasizing its necessity for tests to comprehensively cover the constructs they are designed to assess. This entails a detailed verification process, often requiring consensus among experts for thorough evaluation (Nikolopoulou, 2023). To ensure the assessment tool's relevance, clarity, and comprehensive coverage of the intended construct, an initial review of the items was conducted by experts in psychology, parenting, and psychometrics. Moreover, the qualitative phase of the study utilized a content analysis approach, incorporating semi-structured, in-depth interviews with three psychologists and two psychometrists, all with significant experience in working with parents within their psychological practice. This expert feedback proved instrumental in refining the inventory, guiding the revision, addition, and deletion of items to enhance the instrument's content validity. Such a process was pivotal in ensuring that the inventory accurately reflects the domain of anxiety among parents, thus making it a valid tool for assessing this specific psychological construct.

Pilot Testing

To ensure the questionnaire really captures what it's meant to, we tested a first version with a small group of 10 parents, split evenly between men and women. This test helped us see if the questions were clear and if the questionnaire was easy to use.

Data Treatment

To evaluate the internal consistency or reliability of the questionnaire items, Cronbach's alpha was employed. This method involves assessing the shared variance or covariance among the items within the instrument compared to the total variance observed. The underlying principle is that a higher covariance among the items, relative to the overall variance, signifies a reliable instrument. Essentially, Cronbach's alpha calculates the average of all possible split-half reliabilities, providing a standardized measure of agreement between the items on a scale from 0 to 1. Higher Cronbach's alpha values suggest a higher level of agreement among the items, reflecting consistency in participants' responses across a set of questions. This consistency is crucial for the development and evaluation of new survey instruments. A Cronbach's alpha threshold of
0.7 was established as a benchmark for sufficient consistency, indicating that the measure is reliable. While values around 0.7 are considered minimally acceptable, they are not ideal; conversely, excessively high values may suggest redundancy among the questions.

RESULTS

In order to assess the reliability of the statements in the inventory, it applied Cronbach's alpha as a key metric, which is still used in present studies (Amirrudin et al., 2020). This was used as it has been seen as a fundamental tool to evaluate internal consistency or reliability of the measurement scale employed within the research framework (Goforth, 2015). It aimed to gauge the interrelatedness of the items, showing its consistency to measure the expected construct.

Anxiety Inventory

Table 1.1 ***Cognitive Manifestation Statements Reliability Statistics (Cronbach Alpha)***

Frequentist Scale Reliability Statistics	
Estimate	**Cronbach's α**
Point estimate	0.928
95% CI lower bound	0.920
95% CI upper bound	0.936

Note. Of the observations, pairwise complete cases were used.

Frequentist Individual Item Reliability Statistics	
	If item dropped
Item	**Cronbach's α**
A2	0.921
A3	0.922
A14	0.919
A15	0.917
A16	0.919
A22	0.923
A23	0.924
A25	0.919
A35	0.922
A31	0.924

Table 1.1 presents reliability statistics obtained through a frequentist analysis, evaluating both the overall scale and individual items within the assessment. The scale's reliability, assessed via Cronbach's α, demonstrates a notably high level of internal consistency with a point estimate of 0.928, categorized as 'Excellent.' This score indicates that collectively, the items within the scale show exceptional consistency in measuring the construct under study. Moreover, the 95% confidence interval for the scale's reliability, ranging from 0.920 to 0.936, further supports this high level of consistency. Additionally, the individual item reliability statistics illustrate Cronbach's α values if each respective item were to be omitted from the scale. These values, which consistently range from 0.917 to 0.924, show that the scale's overall reliability remains unaffected when any one item is removed, supporting the assessment's stability and consistency in gauging parents' anxiety levels through cognitive manifestations. Sample statements of this instrument to check on the cognitive manifestations of parents' anxieties show a wide range of symptoms, including Statement 15 "unable to control my worries", Statement 22

“experiencing flashbacks of undesirable experiences”, and Statement 25 “not seeing myself as capable as other people”. These statements were considered as these manifestations were also seen in existing literature, just like those of Alzawad et al. (2019), Karatzias et al., (2016), Aldao and Nolen-Hoeksema (2012), and Gloster et al. (2014).

Table 1.2 ***Emotional Manifestation Statements Reliability Statistics (Cronbach Alpha)***

Frequentist Scale Reliability Statistics	
Estimate	**Cronbach's α**
Point estimate	0.924
95% CI lower bound	0.915
95% CI upper bound	0.932

Note. Of the observations, pairwise complete cases were used.

Frequentist Individual Item Reliability Statistics	
	If item dropped
Item	**Cronbach's α**
A6	0.918
A10	0.916
A18	0.915
A24	0.916
A28	0.919
A29	0.914
A30	0.911
A33	0.914
A36	0.915

Table 1.2 presents the reliability statistics from a frequentist analysis that highlight the assessment tool's individual items as well as its overall scale. With a Cronbach's α of 0.924, which is considered "Excellent," the reliability of the scale is assessed, demonstrating a strong degree of internal consistency. This score is indicative of a reliable and strong measure of the construct under evaluation, with strong coherence among the scale's items. Furthermore, the reliability of the scale's 95% confidence interval (CI) spans from 0.915 to 0.932, supporting the high degree of consistency seen in the measurements. Furthermore, the Cronbach's α values for each individual item's reliability statistics are displayed if that item were hypothetically removed from the scale. The values exhibit a consistent range of 0.911 to 0.919, indicating that the removal of a single item from the scale would not substantially impair the overall reliability. This further

validates the assessment's stability and reliability in assessing the emotional manifestations of anxiety experienced by the parents. In order to check the emotional manifestations of parents, manifestations indicated in other literature were considered, such as those indicated by the National Institute of Mental Health (2022) and by Wong and Rapee (2016). Some statements in the instrument included Statement 18 “fearful of being judged”, Statement 30 “feeling constantly worried and afraid about what might happen”, and Statement 33 “fearful of becoming a burden to other people”.

Table 1.3 ***Behavioral Manifestation Statements Reliability Statistics (Cronbach Alpha)***

Frequentist Scale Reliability Statistics	
Estimate	**Cronbach's α**
Point estimate	0.865
95% CI lower bound	0.850
95% CI upper bound	0.879

Note. Of the observations, pairwise complete cases were used.

Frequentist Individual Item Reliability Statistics	
	If item dropped
Item	**Cronbach's α**
A1	0.848
A4	0.850
A8	0.845
A9	0.844
A17	0.846
A19	0.867
A21	0.851
A27	0.848
A32	0.855

Table 1.3 shows the significant reliability data from a frequentist analysis which evaluates the tool's individual items as well as the entire scale with an emphasis on behavioral manifestations. The reliability of the scale, as determined by Cronbach's α, demonstrates a strong degree of internal consistency, with a point estimate of 0.865, denoting 'Good.' This score suggests that, collectively, the items in the scale demonstrate a commendable consistency in measuring behavioral manifestations, although there might be slight variations among them. Furthermore, the 95% confidence interval (CI) for the scale's reliability ranges between 0.850 and 0.879, supporting the observed level of consistency within the measurements. In the same context, the individual item reliability statistics display the Cronbach's α values if each respective item were hypothetically

excluded from the scale. These values range between 0.844 and 0.867, demonstrating that removing any single item would not drastically affect the overall reliability, indicating a stable and reliable assessment tool in comprehensively evaluating behavioral manifestations among parents. Sample statements for the behavioral manifestations included Statement 1 “becoming restless”, Statement 27 “avoids conversing with people”, and Statement 32 “cannot look at people in the eyes”. These statements were just some of the manifestations that even current literature has observed, such as Craske et al.’s (2017) and Howell et al.’s (2015), furthering its relevance in the instrument.

Table 1.4 ***Physiological Manifestation Statements Reliability Statistics (Cronbach Alpha)***

Frequentist Scale Reliability Statistics	
Estimate	**Cronbach's α**
Point estimate	0.895
95% CI lower bound	0.882
95% CI upper bound	0.906

Note. Of the observations, pairwise complete cases were used.

Frequentist Individual Item Reliability Statistics	
	If item dropped
Item	**Cronbach's α**
A5	0.883
A7	0.888
A11	0.875
A12	0.874
A13	0.882
A20	0.891
A26	0.880
A34	0.879

Table 1.4 shows how reliable the inventory is for measuring physiological manifestations of anxiety. The Cronbach's α is 0.895, which is considered 'Good.' This means the tool does a good job of measuring physiological manifestations overall. The numbers between 0.882 and 0.906 tell us the likely range of how consistent the results are. The individual item reliability statistics portray Cronbach's α values if each respective item were hypothetically removed from the scale. These values vary between 0.874 and 0.891, demonstrating that removing any single item would not significantly compromise the overall reliability, reinforcing the stability and reliability of the assessment in comprehensively evaluating physiological manifestations of anxiety among parents.

Some statements included Statement 5 “experienced hot and/or cold sweats”, Statement 13 “have shortness of breath or chest pain”, and Statement 20 “feeling numb or tingling sensation in some parts of the body” to check on parents’ physiological manifestations of anxiety. The consideration of such were due to them being evident even in other literature, such as Barrera-Valencia et al. (2020) and Folk (2022).

DISCUSSION

The reliability statistics from the frequentist analysis provide a robust framework for evaluating the internal consistency of the newly developed inventory designed to assess parental anxiety across cognitive, emotional, behavioral, and physiological manifestations. The findings across Tables 1.1, 1.2, 1.3, and 1.4 collectively highlight the instrument's strong reliability and the coherent structure of its scale, reinforcing its effectiveness in capturing the multifaceted nature of parental anxiety.

Table 1.1 illustrates an 'Excellent' level of internal consistency in measuring cognitive manifestations of anxiety, with a Cronbach's α of 0.928. This high degree of reliability is further supported by a narrow confidence interval, suggesting that the scale items are exceptionally consistent in assessing cognitive aspects of parental anxiety. The analysis also demonstrates the scale's stability; removing any single item does not significantly impact its overall reliability.

Similarly, Table 1.2, focusing on emotional manifestations, reports a Cronbach's α of 0.924, also classified as 'Excellent.' This indicates a high level of agreement among items measuring emotional aspects of anxiety, with a confidence interval reinforcing this consistency. The minor changes in reliability upon the hypothetical removal of individual items further validate the scale's robustness in evaluating emotional manifestations.

The analysis presented in Table 1.3 shifts the focus to behavioral manifestations, reporting a 'Good' Cronbach's α of 0.865. Despite a slight decrease compared to the cognitive and emotional aspects, this still represents a commendable level of internal consistency, affirming the scale's efficacy in capturing behavioral expressions of anxiety. The confidence interval and minimal impact of item removal on reliability underscore the tool's comprehensive approach to assessing behavioral aspects.

Finally, Table 1.4 addresses physiological manifestations with a Cronbach's α of 0.895, deemed 'Good.' This highlights the tool's ability to consistently measure physiological responses associated with anxiety, supported by a tight confidence interval. The stability of the scale is again evident, as the removal of individual items does not significantly affect the reliability.

Collectively, these results affirm the inventory's capability to provide a multidimensional assessment of parental anxiety with high reliability. The

consistent

findings across different manifestations of anxiety underscore the importance of a nuanced approach to understanding and measuring this complex condition. This thorough evaluation of the tool's internal consistency is pivotal in ensuring its applicability in both clinical and research settings, aiming to facilitate targeted interventions and promote the well-being of families affected by parental anxiety.

Conclusions

This research confirms that the detailed inventory for assessing parental anxiety is reliable, effectively measuring anxiety through cognitive, emotional, behavioral, and physiological signs. It shows high accuracy in understanding different aspects of anxiety, with strong consistency in its results, even when individual items are removed. This means the tool is well-designed and stable. Its thorough approach helps grasp the complex issue of parental anxiety clearly, making it valuable for both clinical use and research. Importantly, this inventory can lead to specific actions that help improve the well-being of families, underlining its importance in tackling the challenges parental anxiety brings and in supporting the development of healthier family environments and outcomes for children.

Recommendations

The findings from the reliability analysis of the inventory designed to assess parental anxiety across cognitive, emotional, behavioral, and physiological dimensions offer several avenues for future research and application. Here are some recommendations based on these results:

1. Further Validation in Diverse Populations: Given the high level of internal consistency across various dimensions of parental anxiety, future research should aim to validate this inventory in diverse populations. This includes parents from different cultural backgrounds, socioeconomic statuses, and family structures to ensure the tool's applicability and reliability across a broad spectrum of individuals.

2. Longitudinal Studies: Conduct longitudinal studies to assess how parental anxiety changes over time and in response to different life events or interventions. This will help in understanding the temporal stability of the inventory and the dynamic nature of parental anxiety.

3. Comparison with Clinical Diagnoses: Compare the inventory's assessments with clinical diagnoses of anxiety to evaluate its diagnostic accuracy. This could involve correlating the scores from the inventory with diagnoses made through clinical interviews or other standardized diagnostic tools for anxiety.
4. Integration into Intervention Programs: Use the inventory as a pre- and post-assessment tool in intervention programs aimed at reducing parental anxiety. This can help in quantifying the effectiveness of various therapeutic approaches and programs designed to support parents dealing with anxiety.

5. Exploration of Subscale Interactions: Investigate the interactions between the cognitive, emotional, behavioral, and physiological dimensions of parental anxiety. This could lead to a deeper understanding of how different aspects of anxiety are interrelated and impact parental behavior and child outcomes.

6. Development of Tailored Interventions: Based on the inventory's findings, develop targeted interventions that address specific manifestations of anxiety. For example, if a parent scores particularly high on physiological symptoms, interventions could focus on stress reduction techniques and physical wellness.

7. Education and Awareness Programs: Utilize the inventory in educational settings and awareness programs to help parents recognize signs of anxiety in themselves. This could be coupled with resources and guidance on seeking professional help and employing self-help strategies.

Compliance with Ethical Standards

All applicable institutional guidelines where the study was conducted were followed. The participants were informed of their freedom to answer the survey instrument. All who had submitted their answers had written informed consent.

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EXPLORING LEARNING THROUGH SIMULATION TOWARDS THE ENHANCEMENT OF LIFE SKILLS OF THE 2ND YEAR (BTTE-LDP) 2018-2019 PRE-SERVICE TEACHER AT TUP-TAGUIG

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ABSTRACT

The purpose of this research is to know how far the effectiveness of learning through simulations to their life skills of the BTTE students. This study will help the students to determine their learning through simulation in enhancing their life skills for the improvement of the ability of the students. The method used in this research is quantitative data with correlational analysis. The techniques used to collect the data is survey questionnaire. Whereas the sample used are the students of 2nd year (BTTE-LDP) 2018-2019 at the Technological University of the Philippines Taguig. The researcher develops 5 items for each variable to identify the ability of the students in terms of life skill through learning simulations. Based on the results, most of the respondents are 22 years old, male and came from Automotive Engineering Technology. It is also found out that most of the student had strongly agree that learning through simulation in terms of active engagement, transfer of knowledge, deliberate practice and self-reflection will help them to improve their performance. Furthermore, the correlation between the respondents to their Life Skills through learning simulation has a weak relationship. The significant of learning through simulation has no relationship with their life skills in terms of critical thinking, self-awareness, decision-making and problem solving.

Keywords: *Life Skills, Pre-Service Teachers, Learning through Simulation, Bachelor of Technical Teacher (BTTE), Ladderized Degree Program (LDP)*

INTRODUCTION

In the fast-facing transition of the world and the modernization of the social life of the people, the students used to do are not enough anymore. Real world is a real world

is it not? With the growth of industrialization and improving efficiency in technology, industries by far, have used electronics intensively for its advantage over. In the perspective of and observation of the researchers, the transferring of knowledge and teaching process might not be enough if the teachers focus only on the discussion, for it because the 21st century students are now globally competitive and hungrier to achieve a successful life. As such, the researchers had come up with this study because as the researchers observe, the students are on discussion they are easily distracted in simple noise, commotions and most especially on their gadgets. One of the hindrances that the students may also encounter when they focus on the discussion is that they cannot use their learning trough discussion in real life.

The goal of this study is to enhance the life skills of pre-service teachers in terms of decision-making, problem solving, critical thinking and self-awareness in learning trough simulation in their area of specialization for them to be prepared in their professional career.

Research Questions

As pre-service teacher we must know how adapt with the demand and change in our society to motivate and bring academic excellence to the student and continually know how to enhance theoretical understanding and life skills thru practical exposure and simulation. The study specifically needs to answer the following questions:

1. What is the profile of the students in terms of:
    - 1.1 Age;
    - 1.2 Sex; and,
    - 1.3 Area of specialization?
2. How do the BTTE students describe their learning through simulation in terms of:
    - 2.1 Active Engagement;
    - 2.2 Transfer of Knowledge;
    - 2.3 Deliberate Practice; and,
    - 2.4 Self-reflection?
3. How can learning through simulation enhance the life skill of BTTE students in terms of:
    - 3.1 Critical Thinking;
    - 3.2 Self-awareness;
    - 3.3 Decision-making; and,
    - 3.4 Problem Solving?
4. Does the profile of the respondents have significant relationship in enhancing the life skills of BTTE students?
5. Does learning trough simulation have a significant relationship in enhancing the life skills of the BTTE students?

METHODOLOGY

Research Design

The research method used in this study is descriptive correlational method. This method research is generally constructivism perception which leads to explore learning through simulation towards the enhancements of the life skills of Bachelor of Technical Teacher Education students at Technological University of the Philippines-Taguig

The researchers used survey questionnaire to analyze the input of learning through simulation towards the enhancement of the BTTE students. All data collected should lead to better understanding of this study.

Research Locale

The study will be conducted at the Basic Arts and Science Department at the Technological University of the Philippines-Taguig. Located at 14Km East Service Road Western Bicutan Taguig City.

Population and Sample

The respondents of this study were the 2nd year Bachelor of Technical Teacher Education at the Basic Applied Science Department at the Technological University of the Philippines-Taguig with different specialization such as Electronics Engineering Technology (ELEX), Non-Destructive Engineering Technology (NDT), Chemical Engineering Technology (CHET), Automotive Engineering Technology(AET), Electrical Engineering Technology(EET), Tool and Die Engineering Technology (TDT), Electro- mechanical Engineering Technology(EMET) and Architecture Engineering Technology (ARKI).

Research Instrument

The researcher used survey questionnaire as the main tool for gathering the information needed in the study. The researcher found it as a tool which is easier to use. It is also lessened the time consumed, less expensive and easier to interpret and analyze. This study is comprising of three parts: Part 1: the profile of the respondents in terms of age, sex and area of specialization. Part 2: has the indicator of learning through simulation such as active engagement, deliberate practice, transfer of knowledge and self-reflection. Part 3: has the indicators of life skills in terms of critical thinking, self-awareness, decision- making and problem solving.

Validation of Questionnaire

To make sure that the questionnaire is valid and reliable, the draft of the questionnaire was submitted to the thesis adviser to address some comments and recommendation before it was pretested for certain validation among the respondents of 2nd year BTTE students. The research acquired Cronbach-Alpha result of (0.9457) of the

questionnaires administered for validation. It denotes that the questionnaire is valid and reliable.

Data Gathering Procedure

After the refinement of the instrument, the researchers prepared the entire survey questionnaire to be distributed and to be answered by the respondents. The researchers also administered the survey sheets to the randomly respondents. After questionnaire were gathered, the data was checked, tabulated, and analyzed in through the use of the statistical tests best fitted to measure the indicators used for this study.

Statistical Treatment of the Data

These are the following statistical tools that were used for the data analysis in order to endure reliable and valid interpretation.

1. The frequency and percentage counts were utilized to describe the profile of the respondents in terms of age, sex, and area of specialization.

2. Weighted mean and Standard Deviation to determine the perception on the learning through simulation and for the life skills of the BTTE students.

Interpreting the Weighted Mean

Mean Range	Verbal Description
4.51 - 5.00	Strongly Agree
3.51 - 4.50	Agree
2.51 - 3.50	Neither Agree nor Disagree
1.51 - 2.50	Disagree
1.00 - 1.50	Strongly Disagree

3. Correlation analysis, to determine the significant relationship of the profile of the respondents in terms of sex, age, and area of specialization towards the life skills of the BTTE students.

4. Multiple Regression, to determine if the learning through simulation significantly enhances the life skills of the BTTE students.

Interpreting the Strength of *R* (Correlation Coefficient)

Scale	**Descriptive Interpretation**
0.03 to 0.30 or -0.01 to -0.30	Weak Relationship
0.31 to 0.60 or -0.31 to -0.60	Moderate Relationship
0.61 to 1.00 or -0.61 to -1.00	Strong Relationship

RESULTS

Demographic Profile of the Respondents

The profile of the respondents was considered in this study as to age, sex and area of specialization.

Age of the Respondents

In this study, the age refers to the chronological age or the time that the respondents existed.it is also the quality of the mind and is equated with wisdom and experience. The ages of the respondents are presented in the figure below.

Figure 1: Frequency and Percentage Distribution of Respondent`s Age

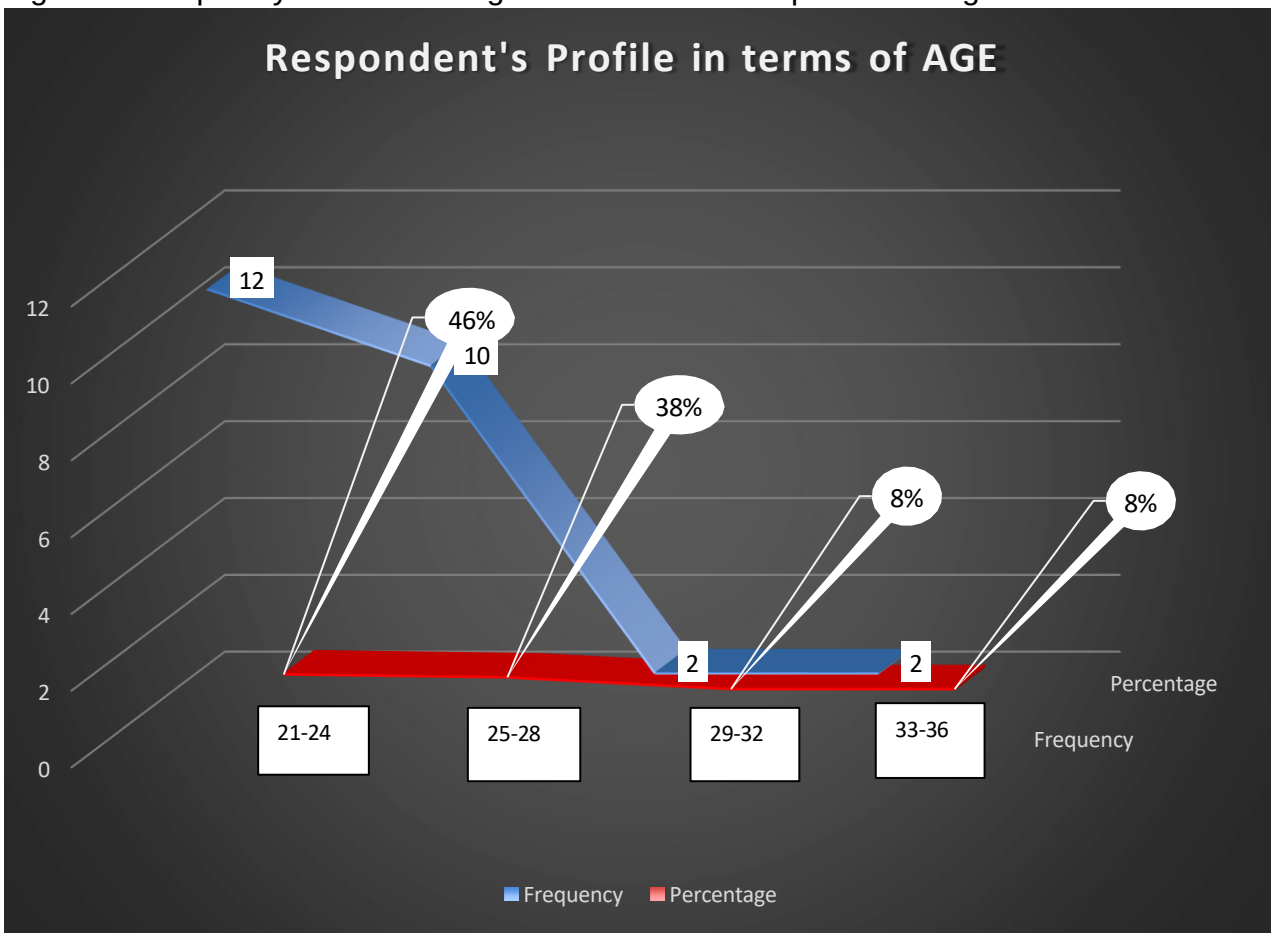
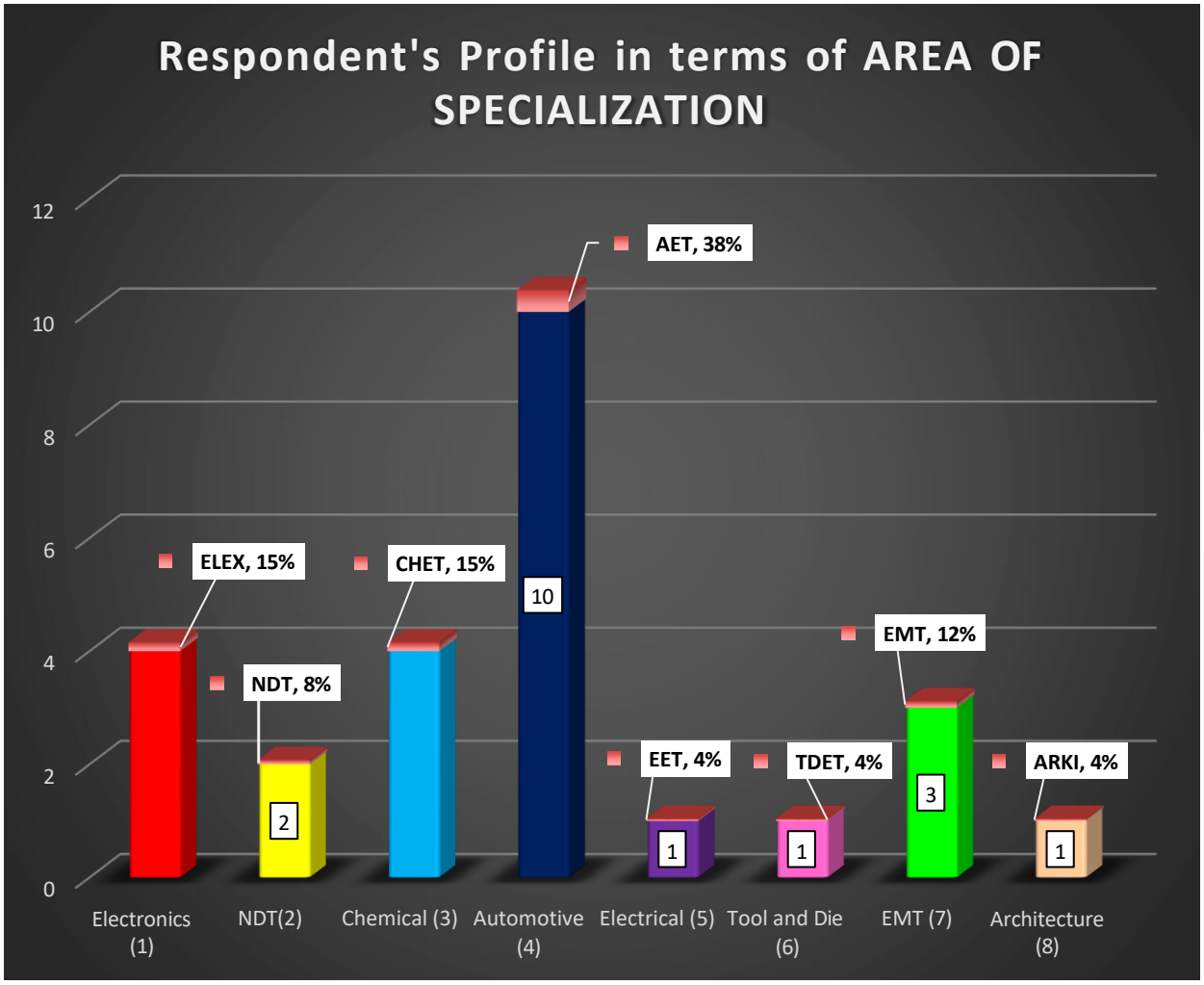


Figure 1 indicates that most of the respondents are age 22. The figure shows that the majority of the respondents are the age of 21-24 which most of them are 22 years old with a frequency of 12(48%); 10 (38%) are from 25-28 years old; 2 (8%) are from 29-32
years old and 2 (8%) are from 33 – 36 years old.

Area of Specialization

Figure 2: Frequency and Percentage Distribution of Respondent`s Area of Specialization



This illustrates that most of the respondents are Automotive Engineering Technology (AET). Figure 2 shows that the frequency and percentage distribution of the respondents in terms of area of specialization. Four (4) of the respondents which is equivalent to fifteen percent (15%) are Electronics Engineering Technology (ELEX) students. Two (2) of the respondents which is equivalent to eight percent (8%) are Non- Destructive Engineering Technology (NDT) students. Four (4) of the respondents which is equivalent to fifteen percent (15%) are Chemical Engineering Technology (CHET) students. Ten (10) of the respondents which is equivalent to thirty-eight percent (38%) are Automotive Engineering Technology (AET) students. One (1) of the respondents which is equivalent to four percent (4%) are Electrical Engineering Technology (EET) students. One (1) of the respondents which is equivalent to four percent (4%) are Tool and Die Engineering Technology (TDET) students. Three (3) of the respondents which is equivalent to twelve percent (12%) are Electro-Mechanical Engineering Technology

(EMET). One (1) of the respondents which is equivalent to four percent (4%) are Architectural Engineering Technology (ARKI) students.

Sex of the Respondents

In this research, sex refers to the biological and physical differences between men and women. Menand women are born similar capabilities but different in with regards to their role. The sex of the respondents is shown below.

Figure 3: Frequency and Percentage Distribution of Respondent`s Sex

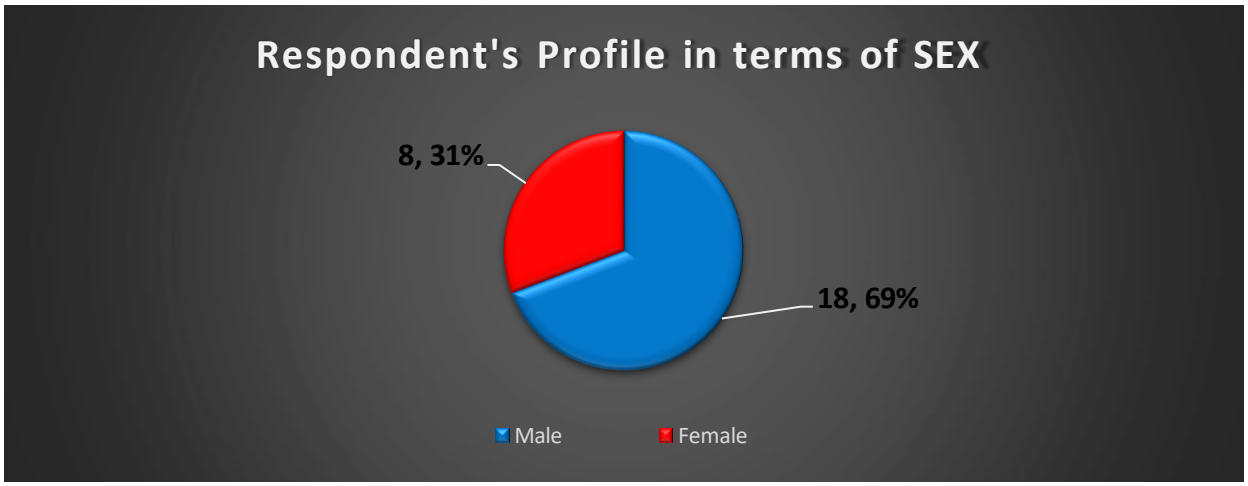


Figure 3 indicates that most of the respondents are MALE. Figure shows the frequency and percentage distribution of the respondents in terms of sex. Eighteen (18) of the respondents which is equivalent to sixty-nine percent (69%) are Male and Eight (8) of the respondents which is equivalent to thirty-one percent (31%) are females.

Learning through Simulation

In learning through simulations, students get the chance to apply their learning toward solving a problem similar to one they might encounter in real life, but without the inherent risks.

Active Engagement

Active engagement refers to the actively engagement of the respondent's activities that encourage them to develop deeper understanding of content by working.

Table 1. Pre-service Teachers Responses in Learning through Simulation in terms of Active Engagement

Indicator	Mean	SD	Interpretation
I engaged myself on hands-on activities	4.54	0.50	Strongly Agree
I am interested in learning activities	4.65	0.48	Strongly Agree
I am an active learner	4.54	0.50	Strongly Agree
I am encouraged to think actively and creatively	4.54	0.50	Strongly Agree
I explore on my own	4.73	0.44	Strongly Agree
Total	4.60	0.48	Strongly Agree

Table 1 shows that the learning through simulation indicated by active learning, as reflected, all the indicators illustrated as Strongly Agree ($\underline{X}$ = 4.60, SD = 0.48) as described by the respondents.

Additionally, the table shows that the respondents are strongly agree as they are engaged themselves on hands on activities ($\underline{X}$ = 4.54, SD = 0.50); interested in learning activities ($\underline{X}$ = 4.65, SD = 0.48); they are active learner ($\underline{X}$ = 4.54, SD = 0.50); encouraged to think actively and creatively ($\underline{X}$ = 4.54, SD = 0.50); and explore things on their own ($\underline{X}$
= 4.73, SD = 0.44).

Small values of standard deviation denote that the responses from the respondents are homogenous. This implies that the respondents who are actively engaged on hands activities, interested in learning activity, active learner, encouraged to think actively and creatively and explore on their own.

Transfer of Knowledge

Transfer of knowledge is a well-done simulation to a new problem or new set of parameters that require the respondents to extend their earlier learning.

Table 2. Pre-service Teachers Responses in Learning through Simulation in terms of Transfer of Knowledge

Indicator	Mean	SD	Interpretation
I apply my new knowledge to create new product	4.54	0.50	Strongly Agree
I share my prior knowledge in the activities that benefit others	4.62	0.49	Strongly Agree
I discuss my output activities in front of other people.	4.69	0.46	Strongly Agree
I make a project that can be used by the others	4.46	0.50	Agree
I distribute knowledge and ensure its availability in the future	4.54	0.50	Strongly Agree
Total	4.57	0.49	Strongly Agree

Table 2 shows the learning through simulation indicated by transfer of knowledge, as reflected, all indicators illustrated as Strongly Agree ($\underline{X}$ = 4.57, SD = 0.49) as described by the respondents.

Furthermore, the table shows that the respondents are strongly agree as they apply their new knowledge to create new product ($\underline{X}$ = 4.54, SD = 0.50); share my prior knowledge in the activities that benefit others ($\underline{X}$ = 4.62, SD = 0.49); discuss my output activities in front of other people ($\underline{X}$ = 4.69, SD = 0.46); make a project that can be used by the others and distribute knowledge ($\underline{X}$ = 4.46, SD = 0.50) and ensure its availability in the future ($\underline{X}$ = 4.54, SD = 0.50).

Small values of standard deviation denote that the responses from the respondents are homogenous. This signifies that the respondents can apply their new knowledge to create new product, share my prior knowledge in the activities that benefit others, discuss my output activities in front of other people, make a project that can be used by the others and distribute knowledge and ensure its availability in the future.

Deliberate Practice

Deliberate practice is a concept popularized by psychologist Anders Ericsson and refers to a methodical and focused approach to improving skills or performance in a particular area. It involves engaging in activities that are specifically designed to enhance one's abilities, with the aim of achieving mastery or excellence in that area.

Table 3. Pre-service Teachers Responses in Learning through Simulation in terms of Deliberate Practice

Indicator	Mean	SD	Interpretation
I perform activities to increase my learning	4.73	0.44	Strongly Agree
I exert effort to improve my performance on hands-on activities	4.73	0.44	Strongly Agree
I appreciate informative feedback that helps improve my output activities	4.77	0.42	Strongly Agree
I monitor my performance in doing activity	4.50	0.64	Agree
I am motivated to perform the task.	4.62	0.49	Strongly Agree
Total	4.67	0.49	Strongly Agree

Table 3 reveals the learning through simulation indicated by deliberate practice, as reflected, all indicators illustrated as Strongly Agree ($\underline{X}$ = 4.67, SD = 0.49) as described by the respondents.

Additionally, the table shows that the respondents are strongly agree as they perform activities to increase their learning ($\underline{X}$ = 4.73, SD = 0.44); exert effort to improve performance on hands on activities ($\underline{X}$ = 4.73, SD = 0.44); appreciate informative feedback that helps improve output activities ($\underline{X}$ = 4.77, SD = 0.42); monitor performance

in doing the activity ($\underline{X}$ = 4.50, SD = 0.64); and motivated to perform the task ($\underline{X}$ = 4.62, SD = 0.49).

Small values of standard deviation denote that the responses from the respondents are homogenous. This signifies that the respondents who are actively engaged in deliberate practices can perform to increase their learning, exert effort to improve performance on hands on activities, appreciate informative feedback that helps improve output activities, monitor performance in doing the activity and motivated to perform the task.

Self-reflection

Self-reflection is a cognitive process wherein individuals examine their thoughts, feelings, actions, and experiences. It involves introspection and evaluation of one's beliefs, values, goals, and behaviors. Self-reflection is not merely about thinking about oneself but rather about critically analyzing one's thoughts and actions in order to gain insights, improve understanding, and make positive changes.

Table 4. Pre-service Teachers Responses in Learning through Simulation in terms of Self- reflection

Indicator	Mean	SD	Interpretation
I look back on my action after doing a task	4.42	0.49	Agree
I am aware on my learning performance	4.58	0.49	Strongly Agree
I know my strength and weaknesses in doing hands-on activities	4.58	0.63	Strongly Agree
I accept feedback from others to improve my performance	4.65	0.48	Strongly Agree
I do activities on my own	4.96	0.19	Strongly Agree
Total	4.64	0.46	Strongly Agree

Table 4 shows that the learning through simulation indicated by self-reflection, as reflected, all the indicators illustrated as Strongly Agree ($\underline{X}$ = 4.64, SD = 0.46) as described by the respondents.

Moreover, the table shows that the respondents are strongly agree as they look back on their action after doing a task ($\underline{X}$ = 4.42, SD = 0.49); aware on their learning performance ($\underline{X}$ = 4.58, SD = 0.49); know their strength and weaknesses in doing hands- on activities ($\underline{X}$ = 4.58, SD = 0.63); accept feedback from others to improve their performance ($\underline{X}$ = 4.65, SD = 0.48) and do activities on their own ($\underline{X}$ = 4.96, SD = 0.19).

Small values of standard deviation denote that the responses from the respondents are homogenous. This implies that the respondents as they look back on their action after doing a task, aware on their learning performance, know their strength

and weaknesses in doing hands-on activities, accept feedback from others to improve their performance and do activities on their own.

Life Skills

Life skills encompass a range of abilities that enable individuals to navigate the complexities of daily life and effectively cope with various challenges. According to Zins, et. Al (2018), life skills are defined as "abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life" (Zins, et.al 2018, p. 1). These skills are not innate but are instead learned and acquired through experience, education, and social interaction.

Critical Thinking

Critical thinking is a multifaceted cognitive process that involves analyzing, synthesizing, and evaluating information in order to make informed decisions or form well- reasoned beliefs. At its core, critical thinking is about approaching problems or situations with an open mind and a willingness to question assumptions, consider alternative perspectives, and weigh evidence objectively.

Table 5. Pre-service Teachers Responses in Learning through Simulation of their Life Skills in terms of Critical thinking

Indicator	Mean	SD	Interpretation
I can clearly think while on discussion	4.58	0.49	Strongly Agree
I can understand the links between the ideas	4.54	0.50	Strongly Agree
I can learn by actual activities	4.54	0.57	Strongly Agree
I can analyze lesson orderly	4.38	0.56	Agree
I can assess the information being received	4.46	0.50	Agree
Total	4.50	0.52	Agree

Table 5 shows that the learning through simulation enhance their life skills indicated by critical thinking, as reflected, all the indicators illustrated as Agree ($\underline{X}$ = 4.50, SD = 0.52) as described by the respondents.

Moreover, the table shows that the respondents are strongly agree as they can clearly think while on discussion ($\underline{X}$ = 4.58, SD = 0.49); can understand the links between the idea ($\underline{X}$ = 4.54, SD = 0.50); can learn by actual activities ($\underline{X}$ = 4.54, SD = 0.57); an analyze lesson orderly ($\underline{X}$ = 4.38, SD = 0.56); and can assess the information being received ($\underline{X}$ = 4.46, SD = 0.50).

Small values of standard deviation denote that the responses from the respondents are homogenous. This implies that the respondents as they can clearly think while on discussion, can understand the links between the ideas, can learn by actual activities, an analyze lesson orderly and can assess the information being received.

Self-awareness

Self- awareness is a being conscious of what you are good at while acknowledging what you still have yet to learn. Self- awareness is when people know what they want in their lives, what makes them happy, what they want to change or improve in them and what are their most important belief and values.

Table 6. Pre-service Teachers Responses in Learning through Simulation of their Life Skills in terms of Self-awareness

Indicator	Mean	SD	Interpretation
I can understand my own needs and desires	4.42	0.49	Agree
I can pay attention to my emotion and how I work	4.46	0.50	Agree
I can control my emotion when doing my tasks	4.19	0.62	Agree
I can be conscious of where I am good	4.50	0.69	Agree
I can be open to learn new things.	4.88	0.32	Strongly Agree
Total	4.49	0.53	Agree

Table 6 shows that the learning through simulation enhance their life skills indicated by self-awareness, as reflected, all the indicators illustrated as Agree ($\underline{X}$ = 4.49, SD = 0.53) as described by the respondents.

Additionally, the table shows that the respondents are strongly agree as they can understand their own needs and desires ($\underline{X}$ = 4.42, SD = 0.49); can pay attention to their emotion and how they work ($\underline{X}$ = 4.46, SD = 0.50); can control their emotion when doing their tasks ($\underline{X}$ = 4.19, SD = 0.62); can be conscious of where they are good ($\underline{X}$ = 4.50, SD
= 0.69) and can be open to learn new things ($\underline{X}$ = 4.88, SD = 0.32).

Small values of standard deviation denote that the responses from the respondents are homogenous. This signifies that the respondents can understand their own needs and desires, can pay attention to their emotion and how they work, can control their emotion when doing their tasks, can be conscious of where they are good and can be open to learn new things.

Decision-making

In its simplest sense, decision-making is the act of choosing between two or more courses of action. In the wider process of problem-solving, decision-making involves choosing between possible solutions to a problem.

Table 7. Pre-service Teachers Responses in Learning through Simulation of their Life Skills in terms of Decision-making

Indicator	Mean	SD	Interpretation
I can gather enough data in making decision	4.50	0.64	Agree
I can plan ahead before making decisions	4.65	0.55	Strongly Agree
I can think for the benefits of other when making decision	4.62	0.56	Strongly Agree
I can be responsible in every decision that I make	4.62	0.49	Strongly Agree

I can consider opinions when making decision.	4.35	0.48	Agree
Total	4.55	0.54	Strongly Agree

Table 7 shows that the learning through simulation enhance their life skills indicated by decision-making, as reflected, all the indicators illustrated as Strongly Agree ($\underline{X}$ = 4.55, SD = 0.54) as described by the respondents.

Furthermore, the table shows that the respondents are strongly agree as they can gather enough data in making decision ($\underline{X}$ = 4.50, SD = 0.64); can plan ahead before making decision ($\underline{X}$ = 4.65, SD = 0.55); can think for the benefits of other when making decision ($\underline{X}$ = 4.62, SD = 0.56); can be responsible in every decision that they make ($\underline{X}$ = 4.62, SD = 0.49) and can consider opinions when making decision ($\underline{X}$ = 4.35, SD = 0.48).

Small values of standard deviation denote that the responses from the respondents are homogenous. This signifies that the respondents can gather enough data in making decision, can plan ahead before making decisions, can think for the benefits of other when making decision, can be responsible in every decision that they make and can consider opinions when making decision.

Problem Solving

Good problem solvers use a combination of intuition and logic to come up with their solutions. Intuition has more to do with the emotional and instinctive side of us and logic is more related to our cognition and thinking.

Table 8. Pre-service Teachers Responses in Learning through Simulation of their Life Skills in terms of Problem Solving

Indicator	Mean	SD	Interpretation
I can assess the problem with an open mind	4.31	0.67	Agree
I can deal constructively with the problems that I encounter	4.27	0.71	Strongly Agree
I can breakdown problems to understand easily	4.19	0.79	Agree
I can think through issues logically	4.35	0.68	Agree
I can come up with the best possible solution in a real-world problem	4.19	0.39	Agree
Total	4.26	0.65	Agree

Table 8 shows that the learning through simulation enhance their life skills indicated by problem solving, as reflected, all the indicators illustrated as Agree ($\underline{X}$ = 4.26, SD = 0.65) as described by the respondents.

Additionally, the table shows that the respondents are strongly agree as they can assess the problem with an open mind ($\underline{X}$ = 4.31, SD = 0.67); can deal constructively with the problems that they encounter ($\underline{X}$ = 4.27, SD = 0.71); can breakdown problems to understand easily ($\underline{X}$ = 4.19, SD = 0.79); can think through issues logically ($\underline{X}$ = 4.35, SD
= 0.68) and can come up with the best possible solution in a real-world problem ($\underline{X}$ = 4.19, SD = 0.39).

Small values of standard deviation denote that the responses from the respondents are homogenous. This signifies that the respondents can assess the problem with an open mind, can deal constructively with the problems that they encounter, can breakdown problems to understand easily, can think through issues logically and can come up with the best possible solution in a real-world problem.

Correlation Analysis

In research, correlation analysis serves as a valuable tool for examining relationships between variables. However, it's important to note that correlation does not imply causation. As stated by Sullivan (2019), "correlation provides an indication that there is a relationship between two variables; it does not, however, indicate that one variable causes the other" (p. 98). This principle underscores the need for caution when interpreting correlation coefficients.

For instance, suppose we have two variables, A and B, and their correlation coefficient indicates a strong positive relationship. This correlation could be due to various factors. It's plausible that A causes B, meaning changes in A lead to corresponding changes in B. Conversely, it's also possible that B causes A, where variations in B influence the values of A. Moreover, as Sullivan (2019) further highlights, "an additional variable (C) could cause both A and B" (p. 98). This scenario introduces the concept of a third variable, which may confound the relationship between A and B.

Table 9. Relationship between the Respondents Profile to Life Skills in terms of Critical Thinking

Profile Variables	r -value	Significance Level	Interpretation
Age	0.010	0.05	Weak Relationship
Sex	-0.042	0.05	Weak Relationship
Area of Specialization	0.216	0.05	Weak Relationship
Total	0.061	0.05	Weak Relationship

Table 9 shows that there is a weak relationship (r-value = 0.061) significant at 0.05 between the profile of the respondents to life skills in terms of critical thinking. It shows that there is a weak relationship (r-value = 0.010, $p<0.05$) between the respondents age and their critical thinking skills. It appears that there is a weak relationship (r-value = - 0.042, $p<0.05$) between the respondent's sex and their critical thinking skills.it pointed out that male have the weak relationship in terms of critical thinking. In terms of area of

specialization, it displays shows that there is a weak relationship (r-value = 0.216, p<0.05) between the respondent's area of specialization and their critical thinking skills.

Thus, the overall findings mean that there is a weak relationship of critical thinking of the life skills among the profile of the BTTE students.

Table 10. Relationship between the Respondents Profile to Life Skills in terms of Self-awareness

Profile Variables	r -value	Significance Level	Interpretation
Age	0.014	0.05	Weak Relationship
Sex	0.022	0.05	Weak Relationship
Area of Specialization	0.012	0.05	Weak Relationship
Total	0.016	0.05	Weak Relationship

Table 10 shows that there is a weak relationship (r-value = 0.016) significant at 0.05 between the profile of the respondents to life skills in terms of self-awareness.
It shows that there is a weak relationship (r-value = 0.014, p<0.05) between the respondents age and their self-awareness skills. It appears that there is a weak relationship (r-value = -0.022, p<0.05) between the respondent's sex and their self-awareness skills.

Additionally, in terms of area of specialization, it displays shows that there is a weak relationship (r-value = -0.012, p<0.05) between the respondent's area of specialization and their self-awareness skills.

Thus, the overall findings mean that there is a weak relationship of self-awareness of the life skills among the profile of the BTTE students.

Table 11. Relationship between the Respondents Profile to Life Skills in terms of Decision-making

Profile Variables	r -value	Significance Level	Interpretation
Age	0.041	0.05	Weak Relationship
Sex	0.329	0.05	Moderate Relationship
Area of Specialization	0.339	0.05	Moderate Relationship
Total	0.236	0.05	Weak Relationship

Table 12 shows that there is a weak relationship (r-value = 0.236) significant at 0.05 between the profile of the respondents to life skills in terms of decision-making.
It shows that there is a weak relationship (r-value = 0.041, p<0.05) between the respondents age and their decision-making skills.

Table 8. Relationship between the Respondents Profile to Life Skills in terms of Self-awareness

Profile Variables	r -value	Significance Level	Interpretation
Age	0.014	0.05	Weak Relationship
Sex	0.022	0.05	Weak Relationship
Area of Specialization	0.012	0.05	Weak Relationship
Total	0.016	0.05	Weak Relationship

Table 13 shows that there is a weak relationship (r-value = 0.016) significant at 0.05 between the profile of the respondents to life skills in terms of self-awareness. It shows that there is a weak relationship (r-value = 0.014, $p<0.05$) between the respondents age and their self-awareness skills. It appears that there is a weak relationship (r-value = -0.022, $p<0.05$) between the respondent's sex and their self-awareness skills.

Moreover, in terms of area of specialization, it displays shows that there is a weak relationship (r-value = -0.012, $p<0.05$) between the respondent's area of specialization and their self-awareness skills.

Thus, the overall findings mean that there is a weak relationship of self-awareness of the life skills among the profile of the BTTE students.

Table 14. Relationship between the Respondents Profile to Life Skills in terms of Decision-making

Profile Variables	r -value	Significance Level	Interpretation
Age	0.041	0.05	Weak Relationship
Sex	0.329	0.05	Moderate Relationship
Area of Specialization	0.339	0.05	Moderate Relationship
Total	0.236	0.05	Weak Relationship

Table 14 shows that there is a weak relationship (r-value = 0.236) significant at 0.05 between the profile of the respondents to life skills in terms of decision-making. It shows that there is a weak relationship (r-value = 0.041, $p<0.05$) between the respondents age and their decision-making skills. It indicates that the older respondents tend to have a higher decision-making. It appears that there is a moderate relationship (r- value = 0.329, $p<0.05$) between the respondent's sex and their decision-making skills. It pointed toward that the female respondents have a decision-making. It is contrast in the study of Harris, he stated that women and men do have distinct critical thinking and decision-making styles, it does not show a difference between critical thinking scores of men versus women.

Furthermore, in terms of area of specialization, it displays shows that there is a moderate relationship (r-value = 0.339, $p<0.05$) between the respondent's area of specialization and their decision-making skills. It points toward that the Automotive students have the higher decision-making.

Thus, the overall findings mean that there is a weak relationship of Decision-making of the life skills among the profile of the BTTE students.

Table 15. Relationship between the Respondents Profile to Life Skills in terms of Problem Solving

Profile Variables	r -value	Significance Level	Interpretation
Age	0.016	0.05	Weak Relationship
Sex	0.016	0.05	Weak Relationship
Area of Specialization	0.054	0.05	Weak Relationship
Total	0.029	0.05	Weak Relationship

Table 15 shows that there is a weak relationship (r-value = 0.029) significant at 0.05 between the profile of the respondents to life skills in terms of problem solving. It shows that there is a weak relationship (r-value = 0.016, $p<0.05$) between the respondents age and their problem-solving skills. It appears that there is a weak relationship (r-value = -0.016, $p<0.05$) between the respondent's sex and their problem- solving skills. It points toward that the female respondents have a higher problem solving.

Additionally, in terms of area of specialization, it displays shows that there is a weak relationship (r-value = 0.054, $p<0.05$) between the respondent's area of specialization and their problem-solving skills

Thus, the overall findings mean that there is a weak relationship of problem solving of the life skills among the profile of the BTTE students.

Table 16. Regression of Life Skills in terms of Critical Thinking on the Independent Variables

Independent Variable	Beta	P-value	Sig. Level
Active Engagement	0.065	-0.564	.000
Transfer of Knowledge	0.454	0.020	.000
Deliberate Practice	0.072	-0.509	.000
Self-reflection	0.726	0.120	.000

Table 16 displays the regression analysis between learning through simulation and life skills of BTTE students in terms of critical thinking. As shown in the table, every standard deviation increases in the active engagement there is 0.065, transfer of knowledge there is 0.454, deliberate practice there is 0.072 and self-reflection there is 0.726 with a (p-value = -0.564) active engagement, (p-value = 0.020) transfer of knowledge, (p-value = -0.509) deliberate practice, and (p-value = 0.120) self-reflection respectively both significant .000 level.

Likewise, the adjusted R square of 0.509 shows that the active engagement and transfer of knowledge that entered in the equation account for 50.9 % of any variance on the learning through simulation of the BTTE students in enhancing their life skills with F- value of 7.50 which is significant .000 level.

The results indicate that the students who are actively engaged on hands on activities and can transfer knowledge are students who encourage them to develop a deeper understanding of content by working with and can apply their new knowledge to new situations are those students who can enhance their Life Skills in terms of Critical Thinking.

Furthermore, the finding of this study is consistent with the study of Asaro (2010), who stated that it is one of the most common strategies in promoting active learning. It helps to motivate students toward learning through application of the information within a new setting, it develops critical thinking skills.

Table 17. Regression of Life Skills in terms of Self-awareness on the Independent Variables

Independent Variable	Beta	P-value	Sig. Level
Active Engagement	0.385	0.149	.000
Transfer of Knowledge	-0.294	0.112	.000
Deliberate Practice	0.022	0.926	.000
Self-reflection	0.884	0.002	.000

Table 17 displays the regression analysis between learning through simulation and life skills of BTTE students in terms of self-awareness.

The table reveals, every standard deviation increases in the active engagement there is 0.385, transfer of knowledge there is -0.294, deliberate practice there is 0.022 and self-reflection there is 0.884 with a (p-value = 0.149) active engagement, (p-value = 0.112) transfer of knowledge, (p-value = -0.926) deliberate practice, and (p-value = 0.002) self-reflection respectively both significant .000 level.

Moreover, the adjusted R square of 0.540 shows that the deliberate practice and self-reflection that entered in the equation account for 54 % of any variance on the learning through simulation of the BTTE students in enhancing their life skills with F-value of 4 which is significant at.000 level.

The results indicate that the students who engaged themselves in deliberate practices on hands on activities and have self-reflection are students who improve their performance over time in their goal and motivation and question oneself in a positive way are those students who can enhance their Life Skills in terms of Self-awareness.

Table 18. Regression of Life Skills in terms of Decision-making on the Independent Variables

Independent Variable	Beta	P-value	Sig. Level
Active Engagement	-0.240	0.442	.000
Transfer of Knowledge	0.101	0.636	.000
Deliberate Practice	0.597	0.047	.000
Self-reflection	0.589	0.058	.000

The table shows that, every standard deviation increases in the active engagement there is -0.240, transfer of knowledge there is 0.101, deliberate practice there is 0.597 and self-reflection there is 0.589 with a (p-value = 0.442) active engagement, (p-value = 0.636) transfer of knowledge, (p-value = -0.047) deliberate practice, and (p-value = 0.058) self-reflection respectively both significant .000 level.

Moreover, the adjusted R square of 0.366 shows that the transfer of knowledge that entered in the equation account for 36.6 % of any variance on the learning through simulation of the BTTE students in enhancing their life skills with F-value of 4.61 which is significant at .000 level.

The results indicate that the students can transfer knowledge on hands activities that seeks to organize, create, capture or distribute knowledge are those students who can enhance their Life Skills in terms of decision-making.

Table 19. Regression of Life Skills in terms of Problem Solving on the Independent Variables

Independent Variable	Beta	P-value	Sig. Level
Active Engagement	0.219	0.572	.000
Transfer of Knowledge	0.549	0.050	.000
Deliberate Practice	-0.433	0.234	.000
Self-reflection	0.774	0.047	.000

Table 19 displays the regression analysis between learning through simulation and life skills of BTTE students in terms of problem solving.

The beta coefficients of 0.219 with a p-value = 0.572 (active engagement), 0.549 with a p-value = 0.050 (transfer of knowledge), -0.433 with a p-value = 0.234 (deliberate practice) and 0.774 with a p-value = 0.047 (self-reflection) were found significant at .000 level respectively.

Moreover, the adjusted R square of 0.399 shows that the deliberate practice and self-reflection that entered in the equation account for 39.9 % of any variance on the learning through simulation of the BTTE students in enhancing their life skills with F-value of 5.16 which is significant at .000 level.

The results indicate that the students can transfer knowledge on hands activities and engage themselves in deliberate practice are students who ensure the availability of the output to the future users and have aim at improving performance, intentional, designed for the current skill level, combined with immediate feedback and repetitions are those students who can enhance their Life Skills in terms of Problem Solving.

DISCUSSION

This section summarizes and illustrates the results that the researchers have gathered from the study.

1. Profile of the Respondents

The majority of the respondents are in the age of 22 years old with a frequency of 12(48%) are male (18 or 69%) and (10 or 38%) are Automotive Engineering Technology (AET) students.

2. Learning through Simulation

The respondents describe their learning through simulation as strongly agree ($\underline{X}$ = 4.60, SD = 0.48) in terms of active engagement, strongly agree ($\underline{X}$ = 4.57, SD = 0.49) in terms of transfer of knowledge, strongly agree ($\underline{X}$ = 4.67, SD = 0.49) in terms of deliberate practice and strongly agree ($\underline{X}$ = 4.64, SD = 0.46) in terms of self-reflection.

This finding is supported by Parson and Taylor (2018), they said that the concept of "student engagement "is predicted on the belief that learning improves when students are inquisitive, interested, or inspired and that learning tends to suffer when students are bored, dispassionate, disaffected or otherwise disengaged.

Furthermore, a study by Steinwart and Ziegler (2014), He argues that knowledge transfer is the practical problem of transferring knowledge from one part of the organization to another. It seeks to organize, create, capture, or distribute knowledge and ensure its availability for future users.

Moreover, according to the study of McGaghie (2015), he argues that deliberate practice is a highly structured actively engaged in with the specific goal of improving performance. Engaging in deliberate practice, the improvement of your performance over time is the goal and motivation. Deliberate practice means repetition. It means performing the task with the aim of increasing your mastery of one or more aspects of the task.

Lastly, according to the study of Odayte (2017), she stated that student's academic success requires not only action, but also reflection-that is, reflecting on what they have done, what they are doing and what they will do.

3. Life Skills

The respondents describe their life skills as agree ($\underline{X}$ = 4.50, SD = 0.52) in terms critical thinking, agree ($\underline{X}$ = 4.49, SD = 0.53) in terms of self-awareness, strongly agree ($\underline{X}$ = 4.55, SD = 0.54) in terms of decision-making, agree ($\underline{X}$ = 4.50, SD = 0.52) and agree ($\underline{X}$ = 4.26, SD = 0.65) in terms of problem solving.

4. Relationship of Respondents Profile to Life Skills

The relationship of the respondent's profile to their life skills displays weak relationship as the data result tabulated. This finding is supported to the study of

Özdemir (2019), Kürüm (2015), Çekiç (2018), Akar (2017) also viewed the factors affecting critical thinking skills and the result of these studies teacher candidates critical thinking skill scores were not significantly different between the gender variable. When gender and critical thinking sub-skills scores were compared, there was significant difference between gender and assumption identification.

5. Regression Analysis of Life Skills of the Bachelor of Technical Teacher Education students on the Independent Variables

Critical Thinking, active engagement, transfer of knowledge, deliberate practice and self-reflection significantly enhances the life skills of the respondents with beta coefficients of 0.065 with a (p-value = -0.564) active engagement, 0.454 with a (p- value = 0.020) transfer of knowledge, 0.072 with a (p-value = -0.509) deliberate practice and 0.726 with a (p-value = 0.120) self-reflection respectively both significant
.000 level.

Furthermore, the finding of this study is consistent with the study of Asaro (2010), who stated that it is one of the most common strategies in promoting active learning. It helps to motivate students toward learning through application of the information within a new setting, it develops critical thinking skills.

The above finding is supported by Kahu (2018), stated that research has demonstrated that engaging students in the learning process increases their attention and focus, motivates them to practice higher level critical thinking skills and promotes meaningful learning experience. Instructors who adopt a student approach to instruction increase opportunities for student engagement, which then helps everyone more successfully achieve the courses learning objective.

Self-awareness, active engagement, transfer of knowledge, deliberate practice and self-reflection significantly enhances the life skills of the respondents with beta coefficients of 0.385 with a (p-value = 0.149) active engagement, -0.294 with a (p- value = 0.112) transfer of knowledge, 0.022 with a (p-value = -0.926) deliberate practice and 0.884 with a (p-value = 0.002) self-reflection respectively both significant
.000 level.

The findings of this study are consistent with the study Hatton & Smith (1995), they stated that self-reflection is questioning oneself in a positive way and the deciding whether there is a better or more efficient way of doing it in the future. They identified four essential issues concerning reflection: we should learn to frame and reframe complex or ambiguous problems, test out various interpretations and then modify our actions consequently.

Decision-making, active engagement, transfer of knowledge, deliberate practice and self-reflection significantly enhances the life skills of the respondents with beta coefficients of -0.240 with a (p-value = 0.442) active engagement, 0.101 with a (p- value = 0.636) transfer of knowledge, 0.597(p-value = -0.047) deliberate practice and
0.589 with a (p-value = 0.058) self-reflection respectively both significant .000 level.

This supported the study of Yesilbas and Lossent (2015), they argue that knowledge sharing leads to improve decision-making. Knowledge has important role in individual Decision-making. To have a good decision-making knowledge has to be shared.

Problem Solving, active engagement, transfer of knowledge, deliberate practice and self-reflection significantly enhances the life skills of the respondents with beta coefficients of 0.219 with a p-value = 0.572 (active engagement), 0.549 with a p-value
= 0.050 (transfer of knowledge), -0.433 with a p-value = 0.234 (deliberate practice) and 0.774 with a p-value = 0.047 (self-reflection) were found significant at .000 level respectively.

The above findings are supported to the study of Goodarzi, et.al (2018), he argues that transfer of knowledge is very much related to the problem of knowledge integration, knowledge application and knowledge use in the "real world". Knowledge transfer is not about producing information resources at the end of a project or making those resources available to used. Rather it is about reducing the gap between what is known and what is used. Knowledge transfer should be considered at the start of project by identifying who will use the projects, result and planning to obtain results that fits user`s needs and experiences.

Conclusions

Based on the foregoing summary of findings, the following conclusions are drawn:

1. Most of the respondents are in the age of 22 years old, Male and Automotive Engineering Technology students.
2. Learning through simulation of the 2nd year (LDP) Bachelor of Technical Teacher Education-BTTE students illustrate as strongly agree.
3. The life skills of the 2nd year (LDP) Bachelor of Technical Teacher Education students illustrate as agree.
4. There is no significant relationship between the profile of the respondents in enhancing the life skills of the 2nd year (LDP) Bachelor of Technical Teacher Education students.
5. The learning through simulation significantly enhances the life skills of the 2nd year (LDP) Bachelor of Technical Teacher Education students if they engage themselves on hands on activities, motivate to perform task, apply new knowledge to create a product and accept feedback from others to improve performance the students can enhance their life skills.

Recommendations

As stated in the limitations and capabilities, there are few recommendations for the improvement of this research.

1. For future researchers, that will conduct a study related to this paper, it is highly recommend conducting a physical survey to extract more reliable data that may give you accurate results and to expand their topics.
2. It is recommended to use a test of significance to calculate the p-value in the correlation analysis, for the reason that the correlation analysis provide only the r-value which only tells us the strength and direction of relationship.

3. To have a reliable data result, it is also recommended to expand the research locale, for which the population may increase and to give a better a result.

Compliance with Ethical Standards

The researcher ensured that all research protocols involving ethics in research were complied with for the protection of all people and institutions involved in the conduct of the study.

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This research project would have never been successful without the help of those generous individuals, who extended their valuable time and efforts in pursuit of this study.

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Above all, to Our Almighty God, for His unconditional love and never-ending forgiveness. For strength, patience and all the blessings He keeps on showering over us. With love and gratitude, the researchers thank Him for the guidance. For the provision, knowledge and wisdom He bestowed upon us, for them to perform each task. For all the challenges that He gave us, that made them a better and stronger person.

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EXPLORING THE CONFLICT TRANSFORMATION PROCESSES TOWARDS PEACE IN COTABATO PROVINCE: A PHENOMENOLOGICAL STUDY

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ABSTRACT

Conflict transformation necessitates identifying causes of conflict and collaborative actors for the development of peace. A phenomenological research study was conducted to explore the transformational processes in three conflicted areas in Cotabato province in terms of peacebuilding, economic, and security. A self-made guided questionnaire through individual interview and focus group discussions (FGD) was used. For thematic analysis, a descriptive core codes were generated and translated into English. These codes were grouped and tabled according to their similarity and relevance to the research questions. Captured themes were generated after analyzing the relationship of core ideas to the questions. Results found that the restoration of peace reflects eliminating prejudice, building strong support systems, and welcoming cultural boundaries. In addition, upholding culture-to-culture, and people-to-people relations forge genuine peace for all.

Keywords: *Conflict transformation processes, peacebuilding process, economic process, security process, peace, Cotabato Province*

INTRODUCTION

Due to various prolonged conflicts (Åkebo, 2020) ranging from Moro to communist insurgent forces, the Southern part of Mindanao has been dubbed the land of animosity and terror for the past four decades (Ballesteros, 2020; Loesch, 2017a). People are

reluctant to go out and engage in economic activities because safety has become intangible. According to Ochiai (2016), there were three key explanations why the Mindanao conflicts had lasted so long: inequalities and injustices, ancestral domain, and political and economic depression. Conflicts continued to claim thousands of lives and wealth, but not until the new Bangsamoro government was formed, led by the Moro Islamic Liberation Front (MILF), to foster peace and honor their heritage (Ochiai, 2016).

The peace deal in 2014 between the MILF and GRP formally ends long runny war and paved the way to improve people-to-people and culture-to-culture relationships. The peace deals serve as a parameter to stop military and violent coercion and provide dynamic opportunities for development. Conflict transformation in this case has become an emerging social and political aspect that helps to provide a clear path towards peace. However, few studies have been conducted on conflict transformation processes.

Therefore, this study aims to explore the processes involved in the achievement of peace in Cotabato province particularly in the context of peacebuilding, economic and security. By exploring the different processes, this study identifies the elements that allow in the transformation of the locality that once called conflict-affected areas to more peaceful.

Research Questions

This study generally aimed to explore the processes from conflict to peace in conflict-affected areas in Cotabato province. Moreover, it tried to answer the following questions.

1. What were the explored processes of transition from conflict to peace in terms of:

A. Peacebuilding processes of transition from conflict to peace
   a.1 What are their beliefs towards peace?
   a.2 Who are the people or sectors involved in the process of transformation?
   a.3 What multi-sectorial initiatives are taken toward peace?
   a.4. What are problems encountered in the process of transformation.
   a.5 What perceived effect of transition processes to peace development of the peaceful situation in the said localities (both long term and short term) to the localities.

B. Economic processes of transition from conflict to peace

   b.1 How can peace be achieved through economic processes?
   b.2 What is the economic situation of the people during the time of conflict?
   b.3 What economic activities/strategies are done to cope with conflicts situations?
   b.4.What are the interventions applied to economic situation (stable income, increase income, alternative income sources) during the time of conflict?
   b.5 What are perceived effects of interventions during the time of conflict?

C. Security processes of transition from conflict to peace?

c. 1. Who/ what sectors usually destabilize security in the area?
c. 2. Who are the people tasked to maintain security?
c. 3. What activities are done to maintain security?
c. 4. How did the community participate in maintaining security?
c. 5. What are the problems encountered in maintaining security?
c. 6. What are perceived effects of interventions during that time?

METHODOLOGY

Research Design

This study employed a phenomenological research design. Using this method, the researcher was able to qualify the underlying narratives of the participants' context, personal experiences, and perceptions about conflict and peace transitions. According to Creswell & Creswell (2018), using this method describes and culminates the essence of the experiences of several individuals who have all experienced the phenomenon. In addition, these narratives captured prevailing concerns and guide conceptualizing themes and descriptions to answer the research questions.

Participants

The following parameters were used in the selection process. There were participants coming from the municipalities of Aleosan, Pikit, and Makilala. For the Key Informant Interview (KII), six participants were interviewed comprising the LGU Tourism Officer and BLGU Barangay Captain. They currently hold the office and have the knowledge about current tourism development and living in time of conflict. For the Focus Group Discussion (FGD), eighteen participants were interviewed including the owners of the tourist site, head of BPAT, teacher, vendor, habal-habal drivers and Brgy. Kagawad. As to their inclusion, they should be a resident of the barangay, living at the time of conflict and have some knowledge about peace integration in their area.

Setting

This research took place in the province of Cotabato, which is part of Region XII, also known as the SOCCSKARGEN region. The province's total land area, including urban and rural areas, is 9,008.90 square kilometers. According to the most recent Regional Department of Tourism XII survey conducted in March 2021, the Cotabato province reported 216 182 tourists, both domestic and foreign. In addition, some local attractions in the province can be found in nearby neighboring municipalities of Aleosan, Pikit, and Makilala, which have been identified as research participants. These areas were identified prior to the inclusion in the geographical area of BARMM.

Aleosan has a total land area of 225.44 square kilometers, accounting for 2.42 percent of the province's total land area. According to the 2020 Census, the municipality had 41 944 people spread across 19 barangays. The U.K. Peak, located in the barangays of Upper

Mingading and Katalicanan, is a thriving tourist attraction. In comparison, the Municipality of Pikit has a total land area of 604.61 square kilometers, or 6.49 percent of the total land area of Cotabato. It had a total population of 164,646 people, according to the 2020 Census. The historical Fort Pikit, built during the Spanish military regime in 1893, is a tourist attraction that the municipality can be proud. It is located near the municipal hall along the national highway. The municipality of Makilala, endowed with natural resources, is one of the tourist attractions. In comparison, the Municipality of Pikit has a total land area of 604.61 square kilometers, or 6.49 percent of the total land area of Cotabato. It had a total population of 164,646 people, according to the 2020 Census. The historical Fort Pikit, built during the Spanish military regime in 1893, is a tourist attraction that the municipality can be proud. It is located near the municipal hall along the national highway. The municipality of Makilala, endowed with natural resources, is one of the province's most popular tourist destinations. The New Israel Eco-tourism Park, located in Barangay Israel, has become an obvious attraction to local and foreign visitors. There is a fun adventure that includes a zip line and a scenic view of Mt. Apo during the visit. It covers 343, 57 square kilometers of land, accounting for 3.69 percent of Cotabato's total land area. According to the 2020 Census, the municipality has 87,927 people.

Instruments

The study's instruments used a researcher-made interview guide. Before proceeding to actual data collection, the research tool was subject to validation by researchers. Also, a pilot test was conducted to determine the suitability and accuracy of the questions and probes. The Key Informant Interview (KII) and Focus Group Discussion (FGD) guide questionnaire used the same questions to vouch their responses.

Data Analysis

The obtained information from the interview with the participants during KII and FGD was transcribed verbatim. An inductive approach was used in filtering important responses. The researcher did descriptive coding out of the individual and group responses using the probing questions as a guide. Descriptive core codes were generated and translated into English. These codes were grouped and tabled according to their similarity and relevance to the research questions. Captured themes were generated after analyzing the relationship of core ideas to the questions.

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RESULTS

This section provided responses of the participants on how the LGU, government agencies, and stakeholders come up with localized solutions in conflict-affected areas. These conflict transformation processes towards peace aimed to unfold intervention infused by stakeholders. These exploration processes were anchored to peacebuilding, economic, and security.

A. Peacebuilding Process of Transition from Conflict to Peace

A1. Peace Perspectives

The peacebuilding process comes across the views of the participants in dealing with peace. Because of the marginalizing effect of conflict, the community loudly seeks hope to attain peace. The community had continued to amplify their peaceful perspective that at the end of the day, they could now build better homes and live harmoniously. Common to peace perspectives were themes like presence of economic stability, development, orderly life, communal security, and predisposed goodness.

Table 1: Peace Perspectives

Themes	Description
Economic Stability	Jobs, business, and food opportunities are present. Mushrooming livelihood activities
Development	Community keeps on growing

Orderly life	People can plan out their lives. Living a good life. Living without fear. Being able to sleep properly. Clarity of mind. Freedom to walk.
Communal Security	There is no disturbance. Peace in the neighborhood Harmonious relationship and unity between Christians and Muslims. Absence of threats, conflict, or war. Normal activities in the community.
Predisposed to goodness	Doing no harm to others.

Economic stability

Economic stability prospered because of this relevant sustenance in terms of livelihood were operated in the event where conflict was visible to their locality. Through peacebuilding efforts of stakeholders, NGOs and LGUs, the community itself experiences a tremendous healing where they can find solitude in time of crisis. There were more opportunities provided, voluntary aid and relief were administered. Satisfactory responses can be seen in the smile of the community.

Development

Another evidence of peace perspective is development. Due to an increase of support from the locality and community, the presence of business, infrastructure, affiliations to different agencies for partnership makes relevant development. By this, the community was moving into positive development where the presence of growth and coming in of investment become visible in the area. The way the community defined development is that farming is not only the resource that they can depend on but also able to have additional income. The participants observed that they feel confident to live in their community. Unlike before, the uncertainties were the reasons for losing hope and aspirations to grow.

Orderly life

By this, they considered that upon the intervention of agencies and stakeholders to address the issues of conflict, they were saying that it looked like it is an orderly life again. The restoration of peace expressed a vantage to live a life full of order. This signified that they never more worried to sleep at night, nothing to think whether anytime they will vacate their homes. They can now freely move and go in the market and public spaces without hesitation if there are bomb threats and or even killings. For the participants, peaceful life is orderly life.

Communal Security

The community observed in the process of transition that communal security remained active. Security forces tangled localities and communities by promoting immediate response to disputes. The concern for peace and security is not limited to one municipality

but also observed in other areas. As a result of cooperation and strategic partnership, it gave birth to conflict emancipation. This commitment to peace promotes community stability by encouraging men to promote justice, harmonious relationships, and a secure environment in which they can continue their advocacy for the promotion of security.

Predisposed to goodness.

The way peace enshrined by the participants' responses was the predisposition to goodness. By this, restorations become vital on how it will be grounded into mutual dream of the community, now a living reality. Everything must be put to order where the desirable aim is to let everyone experiencing happy life, secured environment, and absence of war. After decades of misunderstanding and threats to their area, the community wanted to end it because it did not help them to achieve their plans in life. It disturbed their plans. The community wanted to let go of this conflict and move to desirable ends where it formed community's solidarity. Other participants highlighted their effort to end the conflict.

A2. Sectoral Initiatives in the Process

These sectoral initiates developed support to the community namely the national government, provincial government, LGU, BLGU, OPAG, DSWD, DA, DepEd, DoT, Engineering department, Congressman's Office, SK, NGOs, and Business sectors.

Table 2: Sectoral Initiatives in the Process

Themes	Description
National Government	The locality seek supports to maintain peace to the conflicted areas
Provincial Government	Funding for the security force.
Local Government Unit	CAFGU, PNP, negotiations. Opening the door for Moro leaders to be part of development planning. Dispersal program. Seeds planting.
Barangay Local Government Unit	Barangay Capt., BPAT. Routinary visitation and purok dialogues. Cooperative Development Plan by the Brgy. Captains. Active Police and BPAT security force. Livelihood such as skills training for weaving, fish drying, and tailoring. Provision of basic needs such as shelter, food, and water pumps. Ramadhan Camps. Capacity building programs for Brgy. Officials. Meeting and coordination between NPA and the barangay. Community orientation and updating.
Office of the Provincial Agriculture	Intervene aid, programs, and training to the community. Coordinate local official base on the needs.
Department of Social Welfare and Development	4Ps, Out of School Youth education, sports festival, and psychosocial intervention.

Department of Agriculture	Augmentation of DA and BFAR to provide livelihood. Techno-demo farm to community. Farmers' exposure to farms of other communities. Benchmarking of best farming practices.
Department of Education	Teachers, Alternative Learning System (ALS)
Department of Tourism	Tourism investment. Tourism as a "means" to achieve peace. Pooled funds for fish port and fishing boats, housing, and dryer for women. Promotion of local products as source of income through tourism.
Engineering Department	Coordinate with community and DoT for road construction and establishment
Congressman's Office	Donated support to water and electricity to the locality
Sangguniang Pangkabataan	The barangay and community invited the young to cooperate and join the programs
Non-Government Organizations	Balay Mindanao, Balay Rehab, Unipad, G7. Tree planting activities.
Business Sectors	Establishment of Cooperatives.

National Government

GRP provided enough military forces to protect areas inhabited by the armed groups. In Barangay New Israel, for an instance, called for reinforcement of CAFGU and AFP in their community. The presence of NPA collapsed the social and economic development. The community were afraid of going to the market. They suspected that they would be ambushed. Incident, threats, and ambush led them to call for GRP to rescue them from prevailing problem. When the arrival of armed forces happened, it showed a big change to the community's environment. They had the feeling of safety. To maintain this, they required the battalion leader if they could build their brigade within their community as they will sure that nothing will happen to them. The manifestation of BPAT was fully organized even though there were CAFGU and AFP around them. Due to the continued support of the GRP to the locality and mainstreaming of community-based voluntourism, the community had the assurance of claiming their place was now free from NPA's threats. The GRP assigned these forces to eradicate fears to the community. As part of their initiative, the CAFGU and AFP continued to supervise their areas by posting guards and headquarters in the vicinity to intensify their security. While the community itself broadens their advocacy through church leaders and local officials to monitor the entrance of visitors going in and out to their barangay.

Provincial Government

The provincial government also responded to the BLGU offices as they adhered to maintain the community's welfare and development. Through the effort of provincial government, the other military men were instructed to provide monitoring, security, and contacts to the community in case of emergency. Recent support in the form of initiatives dealt with economic recovery and training for economic support. The DA and DoT under

the provincial office were primarily tasked to revitalize the seeking needs of the community and to cope with undesirable conflicts.

Local Government Unit

The participants identified different initiatives provided by LGU to the conflicted community. These were implementing security measures, assessing the daily and continues supply of food and medicine. The role can any LGU office was provide an immediate response as necessary to conflicted areas. It can also be considered that they actively immersed to remote places and offer services. In Aleosan for instance, the LGU through DA, DSWD, MPS, and DOE worked as backbone of the office because of their practical assistance to situation where people and security become a challenging situation. The production, distribution, and maintenance were shouldered to these departments. The municipal mayor got to collaborate with barangay captains to respond in reported incidents and offered intervention. In case of existing Rido in Pikit, the mayor went to the villages and officiated mediation not to escalate again. This was to stop prevailing killings and gunfire due to Rido. This amicable effort led to minimizing the occurrences of conflict and leaving acceptance and peaceful conversation with the group leaders.

Barangay Local Government Unit

The community leaders headed by Barangay captains were able to impose a local-based initiative by encouraging the community to be vigilant and refused to entertain any group that had bad intentions. The BLGU took more jobs to settle because in recent scenarios, the conspiracy of revolution (NPA) was happening within their areas. As an alternative strategy, the Barangay officials conducted visitation to the purok leaders and met with the residents to gather information and problems related to conflict.

Office of the Provincial Agriculture

The Office of the Provincial Agriculturist made a greater impact to the locality in contributing to economic and livelihood upliftment. For so long that the effect of conflicts disabled the development, the sharing of agricultural resources brought new life to the farmers to cultivate their abandoned lands for many years. To increase their potential through knowledge delivery, training was given. This was to mediate gaps and lapses in the social and economic aspects of the locality.

Department of Social Welfare and Development

The Department of Social Welfare and Development assisted traumatic incidents and later aid services to the community. According to the participants, intervention programs initiated by the said department showed positive results in normalizing the socio- economic needs of the community. Various programs in the form of 4Ps, Out of School Youth education, and psychological intervention especially those who suffered from intense scenario of fighting and victims of existing conflicts become recipients.

Department of Agriculture

The Department of Agriculture concentrated on livelihood and farming technology considering that main source of come relied from farming. There was ample land for farming and was left unused before since the occurrence of conflict found it disturbing to the locale residents. This intervention of DA with collaboration with LGU hand over livelihood and farming machinery as they will use it as their initial source of income.

Department of Education

The Department of Education had witnessed the difficult challenge to the number of enrollees and attendance of students who were living in conflicted areas. It was noticeable that in the record, the number of dropped out ballooned in time of conflict. These were caused by evacuation and unsafe to travel. Children were forced to move with their parents. They spent much of their time farming and transfer to peaceful barangay. Every time that conflict booms, they will move from one place to another until such time that they lose their focus to study.

Department of Tourism

The Department of Tourism offered economical income through tourism industry as the new trend in the economic development. By this, the participants never imagined that, for decades of unending war and conflict, the LGU could offer the tourist a relaxing tourist spot and promotion of peaceful areas where they could find peace.

Local Engineering Department

The proper coordination between DoT and engineering department forged vital upgrading of local roads that experienced inaccessibility to market. It was considered that uneven road caused time consuming to the residents in travelling to market. At the time when peace agreement was realized, the uprising of tourism industry to municipality became the source of profit of LGU and the community. The concreting of roads connected to tourist spots sprout good ends not only to the LGU and private owners but also to the community who enjoyed the privilege to use it. The participants were able to work efficiently when going to other villages, even the local leaders in assuming their responsibility to them.

Congressman’s Office

The office of congressman offered support to the residents in improving their quality of life in terms of water and electricity supply. While the emergence of tourists in their area, the community living within, as in the case of New Israel, had something to improve. For them, sponsored support for a good water supply can be a good sign of collaborative and efficient delivery of services by the government. In the case of Aleosan, the participants also said how the office had provided them with a water supply.

Sangguniang Pangkabataan

The Sangguniang Pangkabataan responded to the needs of their community by organizing themselves as civil individuals and refraining from violent activities. It can be remembered that there were instances in which recruitment to NPA activists' organizations was illusive nearby. To avoid this incident, local leaders called for unified meetings to address the possibility of recruitment. Youth were the most vulnerable and could be easily inspired to join.

Non-Government Organizations

The Non-Government Organizations have become vocal to facilitate and offer comprehensible aid for decades in identified areas. In Pikit for instance, the Balay Mindanao, Unipad, and Balay rehab had consistent benefactors of the barangay. Materials and training were common to these supports. The participants believed that any means of aid they received because of their undying service and programs in their barangay.

Business Sectors

Relative to the coming in of investors and programs of LGUs and NGOs, the participants were able to source opportunities, such as livelihood and small-scale entrepreneurial ownership. Consequently, business opportunities have improved. Hence, additional infrastructure-related businesses have become more frequent in the local area. There were recorded meetings and processes from the identified business sectors that found more opportunities to develop. Proper coordination with LGUs and community were on the lists and target to commence agreement and inauguration of projects. At tourism sites, the community started to engage in small-scall entrepreneurial activities. As the increase in visitors to the area became visible, foods and other locally made products were observable. There were also households that sold their native products along the highway while passengers traveled nearby.

A3. Problems Encountered in the Process of Transformation

In lieu of development during the process of transition, one common scenario that hindered the realizability of government and stakeholders' programs was the problem that arose. Some problems encountered during the process of transition were enumerated by the participants as follows: non-responsive, negative views about conflict, lengthy process of development, inequality, threats, and none. It was not a protest of dismay but a normal activity in progress faced by individuals and agents of the transition process.

Table 3: Problems Encountered in the Process of Transformation

Themes	Description
Non-responsiveness	Non-responsiveness of Moro leaders to intervention plan. Some youth did not want to join. Some women opted to stay at home and not participate. Lack of participation of the community.
Negative views about conflict	Fear that conflict may break in any moment.
Lengthy process of development	Process of development is very long.
Inequality	Unequal delivery of livelihood programs.
Threats	Threats to the citizens occur.

Non-responsiveness

The non-responsiveness of some individuals to the programs and communication, the LGU found difficulty to encourage the community to be part of the programs and initiatives of the government. In Pikit, for instance, it feared that this brought chaos and less opportunities to them.

Negative views about conflict

By this, the participants found more frustrating by tagging their area as an unsafe municipality around the country. It is, however, undeniable that the presence of conflicts caused by series of killings, murder, kidnapping, and war continued to claim lives and development. The residents were also facing discrimination about their place and so, many will not converse with them or even call them tourists.

Lengthy process of development

The development process is tedious. Most people in conflicted areas viewed this as a nearly stagnant process, particularly in terms of economic, social, and physical development. People cannot see any changes or improvements in their way of life. Without prompt actions from authorities, societal problems persist.

Inequality

It occurred when there was a disparity in the distribution of programs that provide livelihood. It was distinguished by social inequalities that manifest themselves within the context of the community. When compared to other members of the community, certain people in the community did not receive the same level of attention. The fundamental problems stemmed from social biases and prejudices, as well as poor program administration and dishonest public officials. Individuals with links to a higher authority,

for instance, receive greater amounts of aid, such as relief supplies, whereas those without such connections must rely on chance.

Threats

This was characterized by various factors and took numerous forms. It was an intent to do harm or act violently against someone or a whole community. With this, chaos is created. Moreover, it causes casualties, inflict trauma, injuries, and economic crisis. Emotionally, the people are under constant strain, and their families live in fear. Some are lamenting the death of family members as combat casualties.

A4. Perceived Effects of Transition Process to Development of Peace

There were generated effects of the development of peace namely the economic determinism, development opportunities, infrastructural improvement, social upliftment. improved quality of life, reversed impression on locality's situation, agricultural development, enhanced government structure, and enhanced government structure.

Table 4: Perceived Effects of Transition Process to Development of Peace

Themes	Description
Economic determinism	Autonomy of the locality to engage in entrepreneurial activities. Livelihood continued; people continued doing business. More visitors patronized local products. Opportunities for better jobs.
Tourism opportunities	Aleosan is open for tourism activities. Increased number of beneficiaries of tourism activities.
Development opportunities	Open doors for realistic development of the people. More livelihood programs were initiated.
Infrastructural improvement	Improved infrastructure, to include barangay and tourism sites. Newly concreted roads.
Social upliftment	Increased youth participation in sports and related programs resulting in relief from trauma. Harmonious living among people. Residents returned to the community for confidence in the locality's safety. Establishment of permanent homes and increase in the number of residents. Efficient communication in the community.
Improved quality of life	Improved lifestyle. Fear is no longer hindering people's mobility. People can now live and enjoy life with family.
Reversed impression on locality's situation	The negative impression on the locality's peace and order situation is reversed. Barangay's image was changed.
Agricultural development	Farmers' activities were created.

Enhanced government structure	Development of barangay head organization. Organized and cooperative government officials.
Enhanced peaceful negotiations	Forged peaceful agreement between the Brgy. Captain and NPA
Absence of Conflict	There is a smooth transition from conflict to peace. There is smooth delivery of programs to the community.

Economic determinism

The government supports and safeguards the citizens' means of subsistence. As a result, individuals feel secure engaging in business activity. Training is provided to guarantee that the populace has the proper business management knowledge, and if they wish to pursue business, they are supported and guided by the government. An increasing number of tourists are beginning to purchase local goods and patronize other local businesses.

Tourism opportunities

Tourism is given top priority, the conflict-affected localities maximize their tourism potential. In which they generate income through the utilization of their natural scenery and other possible tourist attractions. The UK Peak in Aleosan, Bahay Kastila in Pikit, and New Israel in Makilala are examples of these tourist sites. Such attractions are highlighted, and the tourists' protection and safety are guaranteed. This would result in several opportunities, mainly commercial and investment ones.

Development opportunities

The development of local residents is prioritized. Individuals are urged to improve their well-being and attain their fullest potential. Programs are designed to ensure the population's ongoing social, cultural, and economic development. The community feels secure and is free to express themselves. As a result, further livelihood projects requiring the participation of individuals are implemented. Moreover, the local government conducts vocational skills training to increase the citizens' technical skills. In addition to farming, fishing, and raising livestock, the residents can engage in other economically viable industries.

Infrastructural improvement

The enhancement of tourist destinations is given high priority. The local government supports local enterprises that provide tourist accommodations, such as hotels, rooms, and houses for rent. Additionally, market structures are upgraded to promote local products. In connection, new concrete roads are constructed. Electricity becomes more

accessible, and safe potable water is distributed to all homes. There are health centers in every barangay, making them widely accessible to the populace.

Social upliftment

People's sense of autonomy and self-assurance were fostered. Youth engagement in sports, sociocultural activities, and other initiatives that helped them to cope with conflict- related stress were prioritized. Children once again can play, attend school on a regular basis, and pursue their aspirations in a friendly and peaceful community. Also, programs were developed to ensure that war victims can process their trauma. Those who had sustained injuries received proper medical care funded by the local government.

Improved quality of life

People can develop their business or means of livelihood without fear of coercion. Every family can raise their children in a tranquil and sustainable environment. The children are assisted mostly in their academic endeavors wherein all levels have access to various scholarships. local community are being promoted, giving the people a sense of pride and trust towards their locality.

Reversed impression on locality's situation

The perception of the peace and order condition in the community changed from unfavorable to good. The promotion of economic, social, and cultural factors is strengthened. Members of the municipal government are performing their responsibilities effectively. Local residents regained trust in the government, resulting in increased participation in local initiatives. In addition, tourism helps individuals feel more at ease in their environment, resulting in a rise in community pride. Other surrounding municipalities initiate collaborative development. The reputation of the local business attracts several outside investments.

Agricultural development

Farmers have access to training and other initiatives that increase and broaden their knowledge of agricultural methods. Local farmers are provided with current and suitable equipment to assist them in producing high-quality goods. In addition, alternate means of subsistence were provided. These livelihoods liberate farmers, fishers, and livestock growers from dependence on their principal source of income, empowering them to be innovative with what they have and what they can do.

Enhanced government structure

The government officials were provided with sufficient training to strengthen their administrative skills and understanding. The welfare of the local community is the highest concern. Any threats of conflict are strictly monitored and given proper attention. Moreover, people were encouraged to communicate their views without fear of intimidation from government officials. Importantly, government officials practice

transparency, the people were given proper and factual information about the local condition.

Enhanced peaceful negotiations

The intensity of promoting negotiation towards peaceful settlement was actualized. The initiative conducted by the LGU to the militant to stop the emerging problems to the community had finally been achieved. The community had to promote the task force in mobilizing their security control over their premises. The community itself had developed strategies and policy in preventing the coming of militants. Moreover, there was help offered by the LGU like training to BPAT officers of the baranggay. Also, the appearance of military battalion manifested strong security assets.

Absence of Conflict

The community lives in harmony where opportunities were available without the fear of conflict. For instance, \ members were able to pursue their livelihoods, the children were going to school and play, and the government officials were continuously supporting and securing the people and the whole place from any threat of conflict.

Economic Process of Transition from Conflict to Peace

There were identified aspects of economic processes from the respondents like perception of economic means towards peace, economic condition during conflict, and perceived effects of transition process to development of peace. Over the past years, the conflicted areas were able to transform their areas into resourceful and abundant locality where peace talks, and agreements had neutralized economic conditions. Furthermore, the community was responsive to economic mobility from stakeholders and government agencies where it improved their engagement into production and sales due to emerging context of tourism as evidence of peaceful locality.

B1. Perception on Economic Means Towards Peace

The highlights of these economic means towards peace were identified as a form of government support through livelihood programs, security, and mental wellness.

Table 6: Perception on Economic Means toward Peace

Themes	Description
Government support	When the LGU funds for the economic stability of the community. Ready-to-respond government services. When there is strong support from local and national relief programs.
Livelihood	When programs like livestock and farming materials are provided. When the community have sources of income
	and food. When residents have permanent jobs and stable or regular earnings.

Security	Secured visibility area. When they can do business without threats from NPAs. When the locality is conflict free.
Mental wellness	When people are mentally focused towards attaining good lives.

Government Support through Livelihood Programs

The first initiator to support and serve the community in times of conflict was headed by LGU or government in general. The government support through livelihood programs comes as lifesaving helps to assist the community from conflicted areas. According to the participants, the government did not miss anything and offered relevant services to them. As strong evidence, health and wellness were also prioritized.

Security

The participants believed that security is a mean why do people from neighboring localities visited their areas. The attendance of visitors of coming in was observed because of the enforced mode of security to the areas. Since there is a visible checkpoint of PNP, the BPAT also reinforced this means where visitors can move without any hesitation about their safety.

Mental wellness

Mental wellness is also important according to the participants. They believed mental health is a strong foundation to uplift their mental conditions such as fear and violence from the past years. Good mental health means that they can focus and persevere to their dreams and aspirations while facing the challenges in our society. Part of assisting the health condition of the community, the youth were encouraged to participate because of the prior traumas they suffered from

B2. Economic Situation During Conflicts

These problems cause a decrease in productivity, trade, and investment. Both LGU and community strived to prioritize safety over jobs and production since some relocated to conflict-free locality. This resulted in emerging problems to settlement and displacement. There was strong behavior of community to rely to government aid, rely to farm produce, limited agriculture, limited income, and fear. It was believed that progress and development in economic conditions were difficult to attain.

Table 7: Economic Situation during Conflicts

Themes	Description
Reliance to government aid	People relied upon government services and programs.
Reliance to farm produce	People generally rely on their crops harvested.
Limited agriculture	Planting, harvesting, and livestock activities are limited. Farmlands were not cultivated because security was not stable. Roads are not conducive for transportation of farm produce. Livelihood assistance was decreased.
Limited income	People have limited, problematic, and unstable sources of income.
Fear	People are afraid. Entrepreneurs are afraid to invest in business as they receive death threats, and some get killed. Some were threatened by the presence of the NPA. They were afraid to be ambushed.

Reliance on government aid

The community relied on the availability of government aid. For the participants, the unpredicted causes of conflict turn down the mobility of the community for farming and improving their resources. Security, economic, and livelihood aids were made available for the community to be used as stepping hope in coping with conflict. It was true enough, according to the participants, that their situation cannot be described. Every day was a busy day. LGUs and NGOs were the bread and butter of the community.

Reliance to farm produce

Farming has become the primary source of economic income for the community. The participants enumerated that corn, palay, and banana (cardava) were abundantly produced in their areas. Aside from it, livestock were another alternative source of income for the residents in different barangays. The locality is popular to produce large amount of farm products in the region. Farmers were also updated on the new technologies in agricultural and livestock production.

Limited agriculture

There were limited planting activities observed for many years. This failure of the agriculture sector was caused by prevailing incidents of ambush, killings, and hold up. The residents were convinced to wait for proper time when combatant group moved to other areas. Farmers left their land field idle and caused production in the entire locality to be few. For the participants, the LGU and DA strived to introduce economic support and binding negotiations with other groups. The presence of security forces helped to at least minimize prevailing violence.

Limited income

In the geographical setting of the community, farming is a common source of income. But this led to a limited income because of the occurring issues to security and peace. When the situation was triggered, the participants stopped and stayed at home for their safety. The coming months harvested crops had little to produce since unstable peace also affected their economic income. These how did the participants tell their story caused by conflict to their area.

Fear

Fear caused the community to minimize their movements. This led to limited activities in entrepreneurial and development of the community. Tantamount to threats and ambushed, the participants cannot even decide what to pursue since they prioritized their safety. The situation was triggered when a member of their community was ambushed due to non-compliance with the demands of NPA. In the height of this situation, the intervention of military forces becomes their savior.

B3. Economic Means and Interventions to Cope from Conflicts

A. Economic Means

The community looked at these economic means as tools to overcome the problems and prevailing issues of fear. From the participants' perspective, these means worked to boost agriculture, livelihood programs, 4Ps programs, security forces, and refraining from military alliances. Through these activities, the community was able to overcome and still stand from these challenges.

Table 8: Economic Means to Cope from Conflicts

Themes	Description
Agricultural Boost	LGU led programs on high value crops, implemented agricultural programs, provided livestock, and cash assistance for agriculture.
Livelihood programs	DSWD and DA implemented livelihood programs and skills. Support from NGOs was prioritized.
4Ps Program	DSWD provided monetary assistance to the deserving poor families.
Security force	The people looked upon the armed Philippine armed force and the LGU for security. The security force conduct monitoring.
Refraining from military alliances	The residents refrained from joining armed movements.

Agricultural Boost

The local government unit's agricultural programs are equipped with the vision of helping the local farmers to cope with conflict related problems. These programs aimed to help the local farmers produce a high value crop, livestock and with cash assistance. It ensures that no local farmers will be left behind. The support of DA in boosting agriculture took place.

Livelihood programs

The DSWD and DA ensured that numerous livelihood programs will be given to assist their effective recovery. For instance, the women were taught with various skills focused in converting local items into market ready products. It also aims to teach and assist the local residents not to be dependent on a single source of income, rather through creativity and resourcefulness, the local residents can create numerous means of income.

4Ps Program

The Pantawid Pamilyang Pilipino Program is a human development measure of the government that provides cash grants to the deserving poor residents in order to facilitate their health, nutrition, and the education of the children. In the case of the affected local residents, 4Ps cash assistance is a big relief. The cash grants are divided into two; the health grant and education grant.

Security force

In terms of security, the Philippine Armed Forces, the local police and LGU personnel ensure that conflict and its possible emergence are always checked and taken under control. The emergence of lawlessness and crimes are taken as top priority concern. The people start to feel safe again. The local community and LGU are coming together to establish a better and peaceful community.

Refraining from military alliances

The local residents ensured that participations in various armed and rebel groups are greatly discouraged. They chose to live in harmony with each other. For instance, the local government encourages the people to report any suspicion at the same time, peaceful surrendering of guns and other ammunition possessed by the former members of armed movements are administered.

B. Economic Interventions

The so-called economic interventions posted improvement and facilitated the welfare of the community. This brought an increase of skills and alleviated life-long support to their family. The participants remembered how the help from different stakeholders and government agencies assisted them from the day one of occurrence of conflict up to stability of the situation. The active interventions can be summarized into

skills training, recovery programs and strategies, economic determinism, limited farming, limited entrepreneurship, economizing, and security force.

Table 9: Economic Interventions to Cope from Conflicts

Themes	Description
Alternative income sources developed	People have alternative income sources and consequently food provisions. New businesses and new jobs were developed.
Infrastructural development	The community were able to build their new homes. Barangay roads were concreted making them conducive for economic activities.
Regained livelihood	Livelihood activities regained their forms. The community engaged in businesses. Farmers regained interest in farming and fishing. They started to invest in business and farming.
Minimized conflict	Minimized number of recorded conflicts. The number of threats and conflict incidences were lessened. The people were safeguarded from the NPA.
Dependence upon aid	The community waited for more donations to come from different sectors.
Empowerment	Women were now able to work. Religious organizations stood up to protect their members.
Educational recovery	Children are now able to go to school.
Subsistence	They were able to eat at least 3 times a day. The interventions at least lessened the community's burden. The people were able to earn income at even the least amount.

Skills trainings

The local government unit and in partnership with other government agencies offer various trainings that could help the local residents learn and develop various skills. For instance, the Department of Trade and Industry conducts programs like Negosyo Centers, Kapatid Mentor me and Small and Medium Enterprise Roving Academy. These programs envision to create more jobs and livelihoods by aiding the boost of the growth

of local enterprise. The DTI assists the local business in making proper branding, processing, and manufacturing of their products.

Recovery programs and strategies

The Department of Agriculture provides not just livelihood programs but also conducts certain strategies that can assist the local workers go back to their former jobs. For instance, some of the local buildings and other infrastructures were damage during the conflict, instead of hiring external contractors, they employ the local carpenters and laborers and at the same time help the local workers gain moral confidence towards their jobs.

Economic determinism

One of the initiatives of the local residents with the guidance coming from the local government unit, they systematized food to table planting. This program encourages the local residents to grow their own food for their own consumption. The local government unit provides seeds in various kinds. At the same time, the local government continues to conduct programs and seminars that can develop the knowledge and skills of the community.

Limited farming

One of the coping mechanisms of the local residents is to practice limited fishing and farming. This method allows the local farmers and fishermen to farm in limited manner. For instance, farmers only plant certain kind of crops that can grow without maintenance. These farmers also ensured that these plants could grow within a small period of time. For the meantime, these initiatives helped them to harvest limited production.

Limited entrepreneurship

Local business started to operate in small scales. It ensured that even in limited manner, the local business is still running. Allowing the operation of local businesses help the whole local economy to continue despite the conflict. The local government systematized the market day schedule. Instead of having daily market openings, it is minimized to only once in a week. Although in limited manner, the local business is still able to operate.

Economizing

Local businesses are gradually returning to normal. People regain their confidence in their business endeavors. The local government assisted and protected citizens' means of subsistence. The livelihood initiatives assisted people in generating sources of income. As a result, better jobs are developed for the public.

Security force

With the security assistance of the local police and other government personnel, the local business is able to thrive. Training is provided to ensure that the populace has proper business management knowledge, and if they wish to pursue business, they are supported and guided by the government. The presence of the local police is apparent in every business center, especially in public markets, seaports, and small business stalls. People can develop their business or means of livelihood without fear of coercion.

B4. Perceived Effects of Transition Process to Development of Peace

There are two perceived effects generated from the interview: positive and negative effects. These effects affect the transition process to the development of peace.

Positive Effects

In the transition process to development of peace, positive effects were experienced and turned out to be helpful to the people from disruption. The outcome of peace negotiation and agreement between GPH, MILF and some NPA members shed opportunities and normalizing the conditions that was once present. These positive effects could be summed up through alternative income resources developed, presence of infrastructure development, regained livelihood, and minimized conflict, dependency upon aid, empowerment, educational recovery, and subsistence.

Table 10: Positive Effects

Themes	Description
Skills trainings	The LGU offered skills training to the community. DTI assisted the proper branding and process of manufacturing their products.
Recovery programs and strategies	The DA implemented recovery programs for the community. A carpenter informant searched for more opportunities to construct houses and buildings to economically recover.
Economic determinism	The community practiced table food planting for their own consumption. Knowledge and skills of the community in making their products were improved.
Limited farming	Some continued fishing and farming but in small scale.
Limited entrepreneurship	Small entrepreneurs started to operate on small scales. Weekly market day is observed.
Economizing	Expenses and budgets were minimized.
Security force	Market activities were assisted by security force for safety.

Alternative income sources developed

When the community had started to return and settle permanently to their ancestral lands, the LGU offered aid services and job opportunities to them. Like for instance, small store or “Talipapa” were constructed near the newly concreted roads generated incomes to the community. Harvested crops and vegetables were sold to travelers and tourists from their farms.

Infrastructural development

A concrete road was the most likely project, which changed the travel distance of the community. In this way, the participants perceived the importance of the road as received from the government. The accessibility of the community to neighboring villages and the market shortened their time to travel. In addition, locally produced crops can arrive immediately at scale facilities. Farmers found it favorable for their businesses. People also preferred to construct their homes along highways. The community stressed out that road construction had a good favor for them.

Regained livelihood

The offshoot of transition process provided strong regain to livelihood. This was the underlying effect where the government agencies offered immediate assistance to them. Moreover, the DA empowered the farmers on their methodology and materials needs to plant crops as they were trying to improve harvests and optimal export of localized crops from their hometown. The effective shift of people to prioritize farming industry necessitates continued implementation of peace and order. As a result of this transition, LGU reported an increase in production.

Minimized conflict

The appearance of security forces and implementation of peace agreements become evident. The community had found minimal conflict sparsely reported. This was because the BLGU maximized their operation in providing checkpoint entries and policy to conflict resolution. Through this active participation of the community and military forces, there were able to control and avoid entrance and attacks of NPA to their area.

Dependence upon aid

People left homeless and other belongings. The participants believed that any forms of aid they accepted as long as it benefited their families especially shelter, medicines, livelihood, and foods. They gathered in a center where they spent days and even a month while waiting to normalize the situations. Tons of supplies arrived from different sectors who helped the victims of conflict. The United Nations and other health-supports agencies collaborated so that everyone had everything on table.

Empowerment

Women empowerment become another perspective that changed the community's thinking about women' roles and identity. Unlike before, women were limited to household choirs and taking care of their children. But the appearance of women in the community opened doors of opportunities. Even in cultural and religious views about women, it showed support by developing their skills and education. The LGUs initiated programs for women particularly to economic perspectives. According to the Tourism Officer of Pikit, this is how they provided women's support to develop their entrepreneurial ability.

Educational recovery

The prevailing result of transitions process was the educational recovery of the locality from the years of informal education brought by conflict. For the participants, formal peace talks, and agreement normalize the area. They observed that there were an increasing number of children who were actively present at the school. This was because the stability of peace in the area provided accessibility for the community to engage in formal education.

Subsistence

By this, the subsistence peace offered a change to their mental wellbeing. In other words, the consistency of having good foods, generating income, and peaceful sleep at night captured an identity of life that supposed to be treated. People can do things about their plans for their children. They were lots of source of income because they can tilt their farmlands.

Negative Effects

There were two major negative effects identified by the participants on how they struggled to it: difficulty in entrepreneurship and opting to migrate.

Table 11: Negative Effects of Transition Process to Development of Peace

Themes	Description
Difficulty in entrepreneurship	The community is still having a hard time conducting regular market day.
Opting to migrate	Some people preferred to relocate to other towns.

Difficulty in entrepreneurship

By this, the participants had to be prepared for any time that conflict may happen, and they needed to travel to a safe area. The tendency of this was they cannot stay longer for their place and cannot cultivate their agricultural land fields. Moreover, their respected LGUs concentrated more on ensuring safety, providing health related services, and

conflict management deliberation with unit head while investment for infrastructure, economic response, and investment were left problematic. The scenarios that conflict produced negative effects come across to other development plans.

Opting to migrate

Another negative effect that was once an evolving situation among the areas were opting to migrate. Hundreds of people wished to end the existing conflict, but they found themselves deciding to migrate to peaceful municipalities and cities where they could find refuge from their direct family members and relatives.

Security Processes of Transition from Conflict to Peace

From peacebuilding to economics processes, security becomes a strong defense established in the locality. It brought alliance with government security forces which unanimously unveiled opportunities and resistance from possible conflict. The participation of other leading public and private agencies made ties and contracts to ensure that no more destabilizations may come. More strategies were employed to suite existing conflict. But the presence of destabilizers made a rough movement to lead into harmonious establishment of peace and order.

Perceived Causes of Destabilization of Security in the Locality

The occurrence of destabilization caused by outlawed combatants created great disappearance and struggle of the community. A few destabilizers had contact with Philippine military forces and local peacekeepers in the barangays which devastated millions of security support. The Moro private armed group, BIFF, MILF, Rido, and NPA were the identified destabilizers of the residents.

Table 12: Perceived Causes of Destabilization of Security in the Locality

Themes	Description
Moro private armed group	In conflict with Christians and Philippine government. Caused massive separations and migration to the locality. Recorded conflicts emerge in isolated areas.
Bangsamoro Islamic Freedom Fighter	Emerged to escalate the peace agreement of the government and MILF.
Moro Islamic Liberation Front	Numbers of reports killings with Philippine army.
Rido	A cultural conflict which caused fear to the residents.
New People's Army	Caused community to fear. Ambush recorded in the community

Moro Private Armed Group

This group called by the participants as Moro private armed group who become the early caused conflict to Christian villages and some remote places. According to the participants, the appearances of Moro and Christians war was due to land conflict and misunderstanding. The Moro feared Christians and vice-versa. From the Christian point of view, the Moro were tagged as traitor and untrusted individuals. While Moro perceived Christians as rubber of lands

Bangsamoro Islamic Federation Front

The breakaway group from MILF named BIFF appeared to escalate fear and violence. This destabilizer was considered as triggering group that caused tension in the community. The BLGU received reports of the coming in of the groups within their territory. The community in response were worried about what any cause that it will create to them. The possibility of conflict is likely studied. The barangay captain needed to coordinate with Purok leaders to intensify their coordination and response. The community were informed and guided of what to do in case there was conflict.

Moro Islamic Liberation Front

The participants believed that violence and conflict were created by the MILF group in southern region. After the separation of MILF from MNLF group, there were an increasing recruitment. The participants had trouble to live a peaceful because of the killings and threats caused by the MILF. Recent reports of bombing were ordered by this group. The GRP prepared their troops and surveillance to the areas in Cotabato, Maguindanao, and Sultan Kudarat.

Rido

Rido is another destabilizer of regional peace. Moro's cultural conflict caused greater disruption to other audiences in the area. The extent of its influence in society also caused hurt and concern that unexpected combat will erupt anytime soon. The difficulty with this issue was that the community where members live became victims, making their security a concern. For the participants, this is what it feels like when there is Rido.

New People's Army

The participants regarded the presence of NPA as a destabilizer in their community. The community will be charged a revolutionary tax. The community's failure to supply their insistent amount resulted in the ambush of its members. As a result of this incident, there is a limitation in mobility and progress. The participants mentioned how they faced the difficulty with NPA in their area.

Agents of and Actions towards Maintaining Security

To further initiate maintenance of security to the locality, the agents of security established groups and made alliances to personnel both in local and national security forces, to cater emergency response needs to the community who suffered from a draining pond of hope for peace. There were responsive authorities in active status ready to engage once any conflict might come. Agents of security were identified to facilitate the ongoing settlement and negotiations with the combatants. Always in the lists were the LGU, BPAT, CAFGU, PNP, AFP, Barangay Captain, Mayor, Governor, and community locals. They served to fully secure the areas and reports incidents related to peace and security of the community.

Table 13: Agents and Actions towards Maintaining Security

Themes	Description
Local Government Unit	Communicated with the national government on security issues. Properly checked tourists coming in and going out from the locality.
Barangay Peacemaking	Provided training on security. Developed strong collaboration with other security forces.
Citizen Armed Forces Geographical Unit	Established firmness and stability.
Philippine National Police	Visibility in the tourism area.
Armed Forces of the Philippines	Established detachment facility.
Barangay Captain	Established a brigade within the barangay. Conducted constant coordination with local officials. Prohibited direct contact between outsiders and residents of the locality.
Mayor	Led and collaborated with BLGU and stakeholders. Contacted with rebel groups and offered helped to eliminate the existing conflict in the locality
Governor	Provided projects to BLGU in terms of livelihood and security force. Forged peaceful aid to the community
Community locals	Initiated installation of CCTV cameras. Tourism sites assigned security forces. Conducted daily regular monitoring.

Local Government Unit

The leading organization who is very active to provide basic needs of the community is the LGU. The participants considered the direct service and response provided by this office. Their immediate needs were given in particular to those who were in conflict situation in form of shelter, food, and transport. These needs were not limited, only to these. There were DSWD, DoT, DTI, and MDRRM projects to improve the life-conditions

and wellbeing of the community. In the management level, the negotiation process, commitment of national government to security issues and implementation of projects remained the top priority of LGU.

Barangay Peacemaking Action Team

BPAT played vital roles in the promotion of safety to the residents. According to the participants, the community-based security was orderly responsible to offer a relevant establishment of monitoring. Its main agenda was to make the environment free from invasions and identify the root cause of destabilizers. They were enforced with capacitated skills and knowledge in securing the community. Their orders were supervised by their barangay captain. For the participants, this is how BPAT maintained the order of the community.

Citizen Armed Forces Geographical Unit

The CAFGU was named as protector of the ongoing conflict and even after it was solved. This military force remained vigilant and untiring clear the areas with the presence of combatants. They are more likely guarded within the border lines of the local communities for stability. The damage caused by combatants made the community seek assistance from them.

Philippine National Police

The PNP intensified their operations to combat destabilizers and maintained security to the locals and the visitors as well. In light of conflict, the exclusive purpose of PNP will always do with regular checking of the behaviors of the community and monitors the entrance in the city.

Armed Forces of the Philippines

The national government mandated the AFP to collaborate with them especially in the call for massive sustainability of security to the community. Most cases that AFP took into were emerging in the vicinity of the combatants. In raid, surveillance and other operations, the AFP were outmost faced the critical responsibility. They appeared in critical situations. They functioned with PNP and BPAT. For the participants, the presence of AFP created a stronger presence of security.

Barangay Captain

The barangay captain managed local service to the community. They took partnership with LGU, AFP, PNP and community. As the mandate of his responsibility took effect, he was assigned the BPAT for security and developed strategies and surveillance with community. Monitors the coming in of the locals and coordinates with local officials about planning and development agenda. This parameter of responsibility created direction for the community.

Mayor

The next higher rank official under the LGU is the mayor. The concerns of the different barangays were capsulized including the variety of existing problems. In case conflict broke out, the mayor ensured all barangays were monitored. For the upliftment of situation, the mayor promoted projects and plans for local development like jobs and other economic earning. There is a creation of job opportunities and coordination with department to smoothly implement it.

Governor

The provincial administration took the larger relationship with municipalities. The priority of the governor is aiding in security. Sponsored projects to BLGU are exercised. The governor maintained that the flow of services and projects remained elusive. For the participant, the governor extended her effort.

Community locals

For security purposes, the community had to initiate a well-directed strategy to ease the problem with security. According to the participants, the community must be responsive to the BLGU and government. They must cooperate with the local leaders and report existing problems encountered with LGU.

Community Participation in Maintaining Security

In the midst of security maintenance, couples of participations arise to further improve network of supports. Inter-participation of the community was once a prevailing component in addressing problems. According to the participants, the call for security force does not depend only on military forces but a presence of community per se. Since the community can identify the root cause of existing problems, it is the community that can control and defend from outsiders. The prevailing conditions regarding community participation in security can be done through practicing vigilance, peaceful co-existence with neighbors, support system, and responsiveness.

Table 14: Community Participation in Maintaining Security

Themes	Description
Vigilance	They are vigilant to the situation. Reported conflict cases that arise in the immediate community. Avoided communicating with outsiders. Monitored the arrival of visitors. Restricted individuals who don't belong to the religious sect. Use of communication devices to promptly contact security forces.
Peaceful coexistence	Christians and Moro established good relationship. Coordination with local officials.
Support systems	Conducted meetings to develop support systems.

Responsiveness	The community followed the policies and mandates of the BLGU and LGU. The community leader followed the government's security plans. The residents remained responsive to the government and local policies. Curfew hours were followed.

Vigilance

The ability to refrain from anybody without prior knowledge can be a practical action. The notorious identify so far engraved fear and toxicity. To avoid, it can result in feeling secure. In the community for instance, the entry of outsiders was limited. The restriction of accessibility to the members of the community without approval of the leaders or parents can minimize creating conflict. Like the practice of the participants in New Israel, they refrained from accepting visitors without approval or undergone checking.

Peaceful coexistence

By this, the participants recognized the importance of non-harming because they believed that conflict has no place in their life. The importance of good relationships in the community was highlighted. Both lived in peace and harmony, working together for everyone's benefit. This was how the participants treated one another.

Support systems

To intensify the support systems in the barangay and the community, the BLGU spearheaded the meetings through Barangay Peace and Order Council. In such a way that updated information was properly disseminated by the concerned individuals. For the participants, part of the meeting was to inform the community who to contact in time of emergency. The BPAT in the barangay can be called. But, in case the situation can no longer handle, the CAFGU and PNP were prepared to support.

Responsiveness

Security policies become a good response of the community to adopt. The participants used this to collaborate with local officials on the adoption of laws. The efficient coordination and involvement of the locals was made possible by their active response to security. Many looked for the objective since they needed to limit their nighttime movements. Curfew hours were implemented. The BPAT patrolled over the communities.

Problems Encountered in Maintaining Security

The participants identified problems they encountered. These problems are referred to as persistence of pocket conflict, insufficient police power, and infiltration of outsiders, lack of security assistance, and lack of participation in the peace process. As the result, the participants had low interest to stay rather decided to evacuate their homes while they

struggled to attain peaceful life. These problems jeopardized the value of human security and economic prosperity.

Table 15: Problems Encountered in Maintaining Security

Themes	Description
Persistence of pocket conflicts	Conflicts still exist but now in a moderate level.
Insufficient police power	The number of police force is disproportionate with the number of cases in the community.
Infiltration of outsiders	Tourists come not for tourist activities but for dating purposes. Outsiders commonly create conflict in the community.

Persistence of pocket conflicts

When peace security is not yet structured, persistence of pocket conflicts become an existence behavior. The presence of MILF, NPA and MNLF caused the alarms and disturbances. Reports in media about military targeted the location and casualties, and deaths were results of pocket conflicts that were a protest for decades already. The participants were confused about their lands that no longer a promising instead a struggle to live. According to the participants, these pocketed conflicts emerged earlier.

Insufficient police power

Police power is necessary to establish security and implement wellbeing of the community. But the number of them was not sufficient to take on the tasks. The problem with the implementation was also caused by minimal police officer to monitor and conduct surveillance. The participants were worried about their security status. The uneven distribution of the security forces in managing community's welfare meant limiting the holistic protection.

Infiltration of outsiders

The arrival of visitors from different localities can be caused by violence if there was no proper checking done. For the participants, infiltration of outsiders meant avoidance of the presence of notorious individuals. Since the emerging tourism activities become a new social gather tourism and invitation for the visitors to experience the atmosphere of tourism industry. Reports from the region highlighted the trends of tourism attractions. The DoT, however, intensified some of security measures and good conditions for the arrival of tourists. Both LGU and BLGU coordinated with DoT to ensure that everyone was enjoying themselves while in the area. This claim was also observed in the Makilala where the community monitored the entry of visitors who directly emerged in the community.

Perceived Effects of Process in Maintaining Security

While security is enforced, there are circumstances that peace will be rationalized. It can be said that in the long process of initiating inputs and activities about security, positive results are observable by the participants. LGUs and NGOs combined their resources to create a sound policy and practice for the community to maintain security matters. The effects of the processes to maintain security come in the form of safety, a sense of tranquility, economic upliftment, and tourism promotion, establishment of peace initiators, minimized conflict, and normalized community dynamics.

Table 16: Perceived Effects of Process in Maintaining Security

Themes	Description
Safety	Every family became safe because of BPAT and Tanod in the barangay. People can now go out of the community even without security support from CAFGU. Absence of fear and threats.
Sense of tranquility	The residents feel a sense of tranquility in the barangay. They feel comfortable with the present situation. The community can sleep peacefully. The people can now freely return to their homes. They feel secured wherever they go.
Economic upliftment	Businesses in tourism sites are now encouraged. People can do business calmly. Improved quality of life.
Tourism is promoted	The tourists are no longer afraid to visit Pikit and Aleosan. Number of tourists increased.
Establishment of peace initiators	Peace initiators are established in the tourism sites and the barangay.
Minimized conflict	Coercion and number of killings are now minimized.
Normalized community dynamics	Regular activities can now be done. Transactions in the community are now normalized.

Safety

Many had decided to prioritize the safety of their family that made to decide to migrate and left their belongings. Since conflict is destructive and nothing to be earned. The participants experienced long occurrences of devastating war claimed thousands of lives and resulted in massive danger to them. Safety becomes the top priority of the government agencies both in public and in private organizations. The coordination of community leaders to LGUs made changes to the behaviors and their activities. In their barangay level, the BPAT maximized their precisive supervision, monitoring, and entry points of the visitors.

Sense of tranquility

When safety appeared, the behavioral characters of the community experienced a sense of tranquility. The participants where now able to sleep peacefully at night and nothing to worry about. They were content to stay and walk within their community because everything was in order. Aside from that, the comfortability to manage their plans for their family is now attainable.

Economic upliftment

The existing behavior of economic upliftment to their areas opened doors for the community to invest in business and other entrepreneurial activities to earn income. The appearance of investors and infrastructures raises awareness of the community to engage in local scale of profitable products. The return of faming activities also yields good feedback and demands for the best output of farming and business activities.

Tourism is promoted

The community and LGU had stronger bound to achieve tourism investment. The conflict- affected areas before and the mountainous land filled with grass and tress had transformed into amusement hubs for the residents and the tourists. Due to this information, the LGU made improvements to the areas and built recreational facilities while tourists enjoyed an eye-catching view. Private owners, on the other hand, also used these as opportunities to invest in tourism. The participants could not imagine how tourism provided them with a glimpse of opportunities. It changed their lives' perspectives on what they can compare to a long time ago.

Establishment of peace initiators

By this, the participants needed to strategize the tourist coming into the area. Part of the plan is the posting of registration and identification for visitors. In Makilala, for instance, the BPAT was situated in the entrance where it required visitors to log in their personal details as part of their policy agenda. Even there is enough security forced present. The DoT, through the support from LGU had forged an agreement with PNP to provide personnel to take position in the area called Tourist Police. Their responsibility is to check the situation and prepare.

Minimized conflict

The presence and enforcement of security forces, peace initiators, and government agencies minimized the occurrence of conflict. This is because the stakeholders and community had maintained their efforts to supervise the entry points of the visitors. The participation of each group made a sound outcome of imposing security mandates. Zero or no cases of conflict reported for the past years. The community believed that they could experience conflict less in society if they kept on refraining from getting involved in it. The police and security forces were on the watch position. They monitored the movements

and activities of the community. The street-roads were lit to clearly provide vision of the road and other locations. The absence of conflict resulted in a positive response from the participants.

Normalized community dynamics

It is normal again, the description for the participants in defining the status of their community. Social activities were now regularly celebrated by the participants. The community itself justified how happy they are to promote and implement their programs. It gave them a realization to call realization of the programs. More infrastructures and physical development were visible. Funding agencies were taking as a form of support and improvement to the community.

DISCUSSION

This section discusses the processes of transition from conflict to peace. Fontana, G., Siewert, M., &Yakinthou,C.(2020) in *Managing War-to-Peace Transitions after Intra-State Conflicts: Configurations of Successful Peace Processes* upholds that peace negotiation has high tendency of success and achievement for peace. These processes convene with varied agencies and stakeholders to directly surpass worsening effects of conflict. The roots of legitimacy, civilian support base and structures of governance, comprising prototypical state functions, were germinated during conflict itself (Özerdem & Podder, 2012). The GRP initiates already various negotiations with rebels' groups. The first declaration of ceasefire dates back to the 1976 Tripoli Agreement and involved the MNLF (Åkebo, 2020) but failed to follow the agreement. Consistent moves to contest peace negotiation taken place in 1986, as part of the first formal peace talks under the Corazon Aquino presidency with another rebel group, the NPA. In the Presidency of Fidel Ramos, the GRP and the MILF peace panel signed a ceasefire agreement in 1997 as a starting point for engaging in peace negotiations (Åkebo, 2020). The next process formally enacted the peace agreement among Moro private armed group (MILF and MNLF) making the BARMM as the official government.

In 2014, the Comprehensive Agreement on the Bangsamoro (CAB) constituted the decommissioning and rehabilitation of MILF and later with MNLF combatants, socio- economic development programs (Loesch, 2017) and to foster peace and honor their heritage (Ochiai, 2016). Aquino administration officiates the promising peace agreement in the national history. Sombatpoonsiri (2018) believes the progress of the Bangsamoro peace process is not due to democratic government interference. Instead, success begins with local civil society being empowered to promote resiliency and peace. However, the GRP and NPA peace negotiation still cannot be served. The next paragraphs discuss the narratives of participants on the processes of transitions with emphasis on peacebuilding, economic, and security processes.

Peacebuilding Process of Transition from Conflict to Peace

From the previous discussions, it mentions historical evidence of Mindanao conflicts and parties involved in solving it. Investigating from narratives of the participants towards peacebuilding scenarios' claims and processes, this study explores understanding the process of peacebuilding. Looking into it, peacebuilding is understood as an outside to inside processes. This means that sectorial initiatives process in service department come across to the compelling problems of the community. The support system comes from other agencies and private institutions. For instance, the UN and humanitarian agencies foster unlimited aid. Certain aid takes different form of peacebuilding initiatives. One relevant peacebuilding is *Aman ki Asha* (a desire for peace) that made impactful platform using media cooperation for people-to-people contacts and peacebuilding (Clayton, Dorussen, Böhmelt, et al., 2020; Rid, 2020). This platform subscribes to the use of media in proper dissemination of information. The essence of peacebuilding to aid conflict is therefore the consistency of supporting groups in providing needs. The outside peacebuilding initiatives process like humanitarian aid from foreign countries directly influence the support in conflict situation both natural and human made. But beyond all the support, it should not compromise the security and health of the victims.

While the sectorial initiatives offer various programs to emancipate individuals from economic and social problems. Some of these initiatives are coming from outsiders. Sectorial support offers some jobs to the community. The LGUs, NGOs, stakeholders, and the community are complementarily working to end the conflict. UN recognized women participation in peacebuilding (Shepherd, 2016). In this study, the peacebuilding initiatives delivered by these sectorial agencies resulted in economic determinism, social upliftment, agricultural development and enhanced peaceful peace negotiations. For instance, Barangay Bagolibas, in Aleosan municipality became the recipient of several peace and development interventions (Daylusan - Fiesta, 2019). This is supported by other study who believes that peacebuilding is a multifaceted task that implies commitment to establishing the military, legal, political, economic, structural, cultural and psychosocial conditions necessary to promote a culture of peace in place of a culture of violence (Lambourne & Herro, 2008). Either it is from outside or inside processes domain, the goal is focused to what best can give to individuals.

Contrary to what many believe, peace initiatives transformation should be a normal state of responding to needs because of inequality, threats, and negative views about conflicts. This claim is supported by Clayton, Dorussen, & Böhmelt (2020) emphasize that peace initiatives do not always take place during times of conflict, nor are they always directly tied to a conflict. In other words, peacebuilding is concerned with more than just conflict resolution as revealed in this study. The core of peacebuilding is a continual reaction to all persons who, in some way, require assistance.

Moreover, peacebuilding initiates draw mismatching of supports. This claim is supported by the studies of Hancock (2017); Leeuwen et al., (2019) which questions peacebuilding as it envisioned and practiced by international actors. It is largely ineffective in achieving its goals of sustainable peace because at some points their support is not in harmony with the local needs. The processes from outside to inside causes unreliability of peacebuilding supports when it lacks connection. Hancock and Leeuwen et al., (2019)

found mismatching service aids and involvement from international actors to the grounds. It is suggested the necessity for locals must be involved in both the formulation and execution of peacebuilding initiatives, as well as internationals, particularly donors, must ensure that their resources are used properly (Hancock, 2017). Part of understanding the peacebuilding process is to look for inside and outside donors to match the needs and wants of people in conflicts.

Economic Process of Transition from Conflict to Peace

The participants believe that the economic process is explained through an interdependency of the community to foreign and local donors. What does it mean? The economic process prevails over existing poverty, displacement, and malnutrition of children because of the presence of destabilizers. The community has nothing to do with security that resulted in the hindrance of economic mobility and entrepreneurial marketing. Due to its presence and conditions, the communities rely only on the existing aid or donors from outside to inside.

The economic situation during conflicts can be drawn from various reasons. It has been posted by Franco (2019) that conflict in Mindanao is due to economics than to interethnic differences. Related issues with the economy during that time are the dependency of the community on government programs since security was also challenged, and people opted to migrate. The cost of living of the community depends on farming. The farmland was left uncultivated because of the escalated conflicts preventing them. Daguino & Gomez (2010) agreed that even going to their farms was also difficult as the military personnel had marked off some areas where the rebels were still reportedly hiding. The effects of conflict afflicting daily life are dealt with (Byrne & Road, 2014). International and national organizations (government) assist and offer livelihood aid. The dependency of the community is the scenario happening. Most of the community is waiting for the piles of food supply and medicine. The larger agencies also contributed to increasing aid support. However, the negative effect is that governmental funders may have felt pressure to spread the wealth to other organizations (Hancock, 2017). The government feels the pressures while their services are needed.

About initiatives made in the previous discussions, economic means to cope with conflict exist as a support system to the problem. The problem is addressing and carrying out agricultural programs and livelihood support. However, security forces are in place to help carry out the initiatives. Therefore, economic movements adhere to the security standards as measures to properly realize it. This study is supported by Cagoco-Guiam (2015), where Aleosan received agricultural-based income-generating projects. These livelihood programs aim to support women's advocacy through GREAT Women as they envision the training skills needed.

While interventions to cope with conflicts are in place. Common to the participants' responses can be drawn as a form of skills training, economic, and security enforcement. It is supported by Adriano & Parks (2013), who define that the beneficiaries generally recognized the political agendas behind aids. In conflict, the community seeks support from corporate agencies like LGUs and stakeholders to satisfy their needs. To advance the recovery programs and strategies of intervention in the transition, Loesch (2017b) supports early results of the ‘Bangsamoro ADVANCE program, and the 'Farmers

Advance program permitted the realization of livelihood, infrastructure, and Alternative Learning System projects, including the provision of agricultural equipment and materials, as well as capacity-building workshops.

The negative effects of the transition process portray how the economy struggles when there is conflict. It is cited by Daylusan - Fiesta (2019), who confirms that economic sources were greatly affected because of prevailing situations. As for its effects on the development of peace, there are two effects (positive and negative) generated by the participants. One of the effects is the empowerment of the locals. It is supported by Kraftl (2008), as cited by Woon (2017), who mentions that mobilizing resources brings about empowerment, particularly to children who greatly suffer. The educational closure due to conflicts limits children's attendance at school, and disruptions continue for years. Children can improve their learning when the GRP and LGUs necessitate the restoration of regional peace. In addition, the regained livelihood positively offers income resources and stability to the community. This result is supported by South & Joll (2016), who believe that civilians can travel more freely, and livelihoods have begun to improve through better access to fields for planting crops. It is because conflicts have been minimized. However, the military forces keep on eyeing the territory. These positive effects contributed to the transition of the development of peace. The participants are excited to embrace the locality without terror and brutality.

There are two identified negative effects of transition, which keep challenging the entrepreneurial and migration of the community. In relation to declining support, it lies in the fact that there are few economic incentives for participation (Özerdem & Podder, 2012). It is evident in the community who prefer to relocate their family to a peaceful and secure place. More so, the economic aspect is problematic, leading to difficulty in entrepreneurial activities. That is why businesses and economic resources are stopped, not because the community refuses to make it; instead, conflicts prevent them from doing so. It is the situation that burdens the commitment of the locals to pursue income and resource development projects.

Conversely, the political agenda tries to mitigate wars among disputants and scattered threats. Woon (2017) seriously calls economic poverty the main reason for the intrusion of violence into the everyday lives of Mindanaoans. The LGUs and stakeholders benevolently take action to promote the community's welfare, but the economic effects of conflict hamper the realizability of entrepreneurial activities.

To further improve the economy (micro and macro levels) concentration of the agencies is to install economic-friendly movements which support the locals' interests. This result is supported by Capuno (2020) states that all economic activities to cope with conflicts have been enacted by GRP, which adopted several interventions and strategies. As a result, visible social, economic, and security changes have been established. Hoping the economic state of the people will be able to satisfy and normalize poverty and conflicts.

Security Process of Transition from Conflict to Peace

Human security captures the ability of the community to overcome serious misfortune due to the unpredicted occurrence of conflicts. The perceived causes of destabilization of security in the locality cause destabilization agents, actors of peace,

community participation, the problems behind the transition, and the effects of the process in maintaining security. As mentioned in the previous discussion, the province experiences varied parties involved in conflicts. Here, the destabilizers are actively situated in different municipalities but have the same purpose, to inflect violence and conflicts. The CPP-NPA-NDF causes fear and violence in the community of Makilala. This result is supported by Åkebo (2020)**,** whose NPA has remained strong in some areas and financially resilient through domestic funding sources, including revolutionary tax. The participants also experienced being ambushed and suffered from threats.

The BIFF remains visible in Aleosan and some parts of Maguindanao and Sultan Kudarat. This result is supported by Pabotoy (2021), how extremist groups are populated in the region. Cagoco- Guiam (2015) also supports this claim and remembers in Midsayap and Aleosan November 2014 BIFF incidents. Conflagration happens in several villages and counts as displacement and burning of houses. While the MILF also appears in several places causing conflicts and disability. However, Ilagan (2014) describes MILF as principled and fair because the group honors and values the agreement to GRP- AFP. Among the combatants in the province, the MILF is only loyal and accommodated to the request and meetings with the government for peace talks and settlements. It is evident in the Bangsamoro government's peace process and the national government settlement and reconciliation program today. A cultural dispute among Muslims, Rido, exists in the province. Cagoco- Guiam (2015) supports this finding about rido in November 2014 at Kidapawan, North Cotabato, where three were killed in a family clash. These destabilizers make Cotabato province conflict-affected areas.

The transition towards security development is only possible with the agents and actors behind it. It has been presented from the previous discussions about the initiatives given by agents and actors who maintain security. The inter-agency security forces are always on the front desk to counterattack troupes that will infuse conflicts. Ilagan (2014) describes actors involved in a multi-stakeholder convergence on the peace agenda bonded the various actors to improve the people's capacity to initiate, sustain, and manage communal peace. Through these agendas, the commitment and realizability of security are used to impart safety to the community.

Also, Berhe (2017) states that local administrations are tasked to maintain peace and stability, which includes running peace and reconciliation meetings, ensuring the collection of small arms in their communities, and reintegrating soldiers returning to their areas**.** The LGUs are first to investigate and monitor the situation. After that, mediation takes place as congruent with the proper process.

Community participation in maintaining security appears as an additional support system. The strong perseverance of the community’s involvement in improving security activities is certainly motivated to ensure everyone’s wellness. In human security, local leaders can craft their perspective and apply it to specific areas. For instance, the peace zone in Sagada, a tourist destination, underscores the importance of acknowledging civilian communities as sovereign actors existing within and in parallel to the sovereignty of two competing actors, the Philippine government and CPP-NPA-NDF (Macaspac & Peoples, 2018). The empowerment of civilian authority to maintain, negotiate and decide on existing issues made them provide solutions solely. However, in the case of Cotabato community security, the participants are persistent enough to practice vigilance. Any misbehavior expressed in society should be reported to authorities like the BPAT. The

Makilala tourism spot also offers this scenario of updating and reporting events related to security. Even though the appearance of BPAT is strong enough to inject security, the community is directed to refrain from any anomalies that may disrupt peace occasions and harmony.

The problems encountered in maintaining security become the struggle of the community. The main purpose of the GRP is to slow down the frequent conflicts erupting in various identified areas. However, security maintenance is not only focused on MILF. Instead, pocketed conflicts are caused by other troops and organizations. It has been supported by Åkebo (2020) that the conflict landscape in Mindanao is complex, with multiple armed elements and sources of violence. By this, the attention of the government to pacify numerous conflicted organizations is scattered and loses concentration. Because of the appearance of BIFF, ISIS, and NPA in areas, the government has to double or triple its preparations. It means more money and military forces resources are spent on preventing conflicts.

The participants also believed that even though numerous combatants reside in different areas of Mindanao. Still, the need for security is reinforced and delivered. The full preventive measures are fully enacted. The lower local government office is intensifying efforts to end the possible security problem.

The establishment of security agents and actors towards maintaining security from conflict to peace shows positive effects when it comes to opportunities and development of the community. Safety measures are observed as part of the perception of the participants. The access to and why people come suggest the stability of security is present. Part of the measure is the presence of security forces on highways. It is supported by Ilagan's (2014) security forces' presence along the highway to immediately investigate and report emerging safety and security concerns. The PNP posts checkpoints for entry and conducts inspections of the individuals traveling. It leads to local monitoring of BPAT officers in their tourism sites. This establishment of peace initiators helps to increase the economic activities of the locals. The national support through PNP, CAFGU, and other military forces remains evident to control and supply security aid to the community, more likely with the presence of tourism sites.

Aside from the stability of security and establishment of peace initiators, the sense of tranquility is believed to be the persistent behavior within the community. The absence of local conflicts creates a mode of tolerance of free movements and conduct of social interactions. It allows the minimization the conflicts. Dilts et al. (2012) insist tranquility (often if not always mistaken for peace) masks deeper and more pervasive violence. For many reasons, the establishment of security in tourist spots and villages where security forces dominate and offer conforming situations. In the community's mind, it is exciting to move without worries. Physical and social conveniences are more sensible to do than before.

Another effect that leads to peace and security is economic upliftment. The economic sound that security can create becomes the new trend in the community with the introduction of the tourism industry. The success of security opens gates to more economic activity for the locals, especially those who live in the areas where tourism is mushrooming. Job opportunities are created, and the transformation of barren lands becomes the center of economic activities for the community. Manalo (2017) believes tourism contributes to the local economy and the nation. He describes the effects of

tourism providing benefits and economic income for the development of the community around it and for the country as a whole.

The local community, like women, can now stand for their economic independency aside from being a mother. The initiatives provided by government agencies and private sectors assume their purpose and contribution. For El-Bushra (2000), as cited in Veneracion-Rallonza (2015), deliberately defending women's newfound economic potential can backfire when men try to reclaim and reassert their position as head of the family and household. It means that women can stand alone and not be too dependent on their partners.

The promotion of tourism becomes the source of the community's income. It is supported by Ruhanen et al. (2013), who examine the promotion of tourism as a tool for indigenous people to develop their communities. The income from tourism activities through initiatives of the community to earn provides economic support to their personal and social development. Aside from these scenarios, the role of tourism is both in showcasing the region to potential new residents and providing the services and facilities (Moscardo et al., 2013). Tourists and investors see the potential for expanding their business in tourist destinations. Cotabato tourism industries try to cater to the possibility of this development because of the level of accommodation and infrastructural development; the tourism industry depends on what the provincial government can support them. The amount of support to fill based on the needs and development of the area still depends on the availability of funds to be given.

Conclusions

This study concludes that the process of transforming conflict includes peacebuilding process, economic process, and security process. It offers a variety of development, especially women empowerment as a form of social, economic, and security development. Their roles toward peace transition exhibit a horizon of and on how society accepts them. Moreover, the direction of women in economic growth testifies to their acceptability and openness to cultural indifferences and attributes. The restoration of peace reflects eliminating prejudice, building strong support systems, and welcoming cultural boundaries. In addition, upholding culture-to-culture, and people-to-people
relations forge genuine peace for all.

Recommendations

This study recommends comprehensive visit to other processes involving conflict transformation and similar elements of peace actors for the sustenance of development. The government partner agencies to provide sound programs in the improvement of diverse community alliance to peacebuilding measures and collaboration; open to women livelihood and economics means to address economics gaps among the affected poor

families, and security contacts and improvement for continuous stability of peace to the entire province.

Compliance with Ethical Standards

The researcher maintained and valued the confidentiality of the participants' information. By their willingness, without any force made, they shared their experiences according to the purpose of the study. The researcher also used to inform- consent that values the participants' interest. All the data obtained during the interview was used mainly for the study. Proper referencing was also observed to credit the authors' ideas during the analysis and further discussion in the study. The researcher ensured that the rights, safety, and -being of all participants were protected throughout the research process. Informed consent was given. The participants were informed about the risks associated with their involvement in the research and given an opportunity to make a voluntary decision to participate in or not participate in the research.

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EXPLORING THE DIFFICULTIES IN TEACHING SCIENCE AMONG INTERMEDIATE GRADE TEACHERS IN SELECTED SCHOOLS IN MBHTE SULU, SOUTHERN PHILIPPINES: BASIS FOR PROGRAM INTERVENTIONS

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ABSTRACT

This study aimed at determining the difficulties in teaching the learning contents in Science experienced by the selected elementary school teachers in Ministry of Basic Higher and Technical Education in Sulu, Bangsamoro Autonomous Region in Muslim Mindanao (MBHTE-Sulu), Southern Philippines this school year 2022-2023. Descriptive survey method was used to investigate the difficulties of teaching Science among intermediate grade teachers in selected schools in MBHTE-Sulu. The subjects of this study were the intermediate grade teachers coming from the 30 elementary schools. These teachers have different educational qualification, teaching experience, status of appointment, number of trainings. Meanwhile, Frequency counts and percentage, Mean, T-Test and ANOVA were used in the treatment of data. Results revealed that majority of the elementary school teachers of MBHTE-Sulu were female; belonging to 36-45 years of age ; with bachelors' degree and some were still pursuing their advance studies; and with 5-10 years teaching experience. Categorically, the teachers found that teaching the learning content in Biology, Physical Science and Earth and Space Science would be moderately difficult. Further, there could be no significant difference found between the perception of the teachers of MBHTE-Sulu in terms of difficulties in teaching the learning

contents in science with respect to their gender, age, educational qualifications and their teaching experiences. Moreover, there was no significant difference found on the difficulties in terms of selecting appropriate methods and strategies in teaching science according to Respondents' Profile.

Keywords: difficulties, teaching Science, interventions, teachers' demographic profile

INTRODUCTION

The goals of science teaching have undergone remarkable shifts, but the problem of improving the quality of science instruction remains. The most frustrating problems facing our society is the continuing pattern of low achievement prevalent in many schools, especially in science (Cortes, 2005).

It is believed that students' scientific competencies are at the nerve center of learning science learning contents. So to equip our students with the basic science literacy necessary in modern society, developing students' scientific competencies has become one of the most essential objectives of science education (DeBoer, 2000;, & Millar, 2006; Tsai, 2015).

This scenario also holds true in MBHTE-Sulu in the Bangsamoro Region in Muslim Mindanao, Southern Philippines where teachers in the intermediate grade level have also facing several challenges in the mainstream of classroom instruction. It is very hard for teachers to facilitate learning in the classroom considering the in-depth contents of science, the classroom strategies and materials to be used , more so, the way how students being evaluated in the light of the k-12 curriculum.

Chio (2010) Argued that unless science teacher is thoroughly knowledgeable of the subject matter, varies his/her lesson presentation, methods and techniques, uses a variety of instructional materials, and knows how to evaluate, yet pupils' achievement in the subject will not be improved. According to some science teachers, most of their pupils have low performance in science. Pupils' performance in any field and more particularly in science is believed to be greatly influenced by teacher preparation. Science teachers' preparation is now recognized as a pivotal point in the reform of science education (Adams, 2005). While Anderman and Sinatra (2021) argued that many of negative experiences associated with the learning of science in schools can be avoided if science educators are cognizant of both the cognitive abilities of all adolescent learners.

Furthermore, Filoteo (2018) mentioned in her research on "teachers lay the task of strengthening basic education through teaching and promotion of primary and secondary science to students", though the task not easy, teachers must know and keep a breast with content. They must familiar with a variety of methods, instructional materials, and more importantly, they must know and understand the nature of the learners.

Moreover, Metin (2013) found that teachers do not determine appropriate topics for students' level and appropriate criteria for topics and have insufficient knowledge about how prepared rubrics. Besides, it is seen that teachers encounter some difficulties such as crowded classroom, insufficient time for assessment, insufficient learning environment and technological opportunity and they do not do objective assessment.

On the basis of the above premises, the researchers were encouraged to conduct an investigation on the difficulties of teaching science in the selected schools in MBHTE-Sulu, Division of Sulu. This paper fervently hopes to draw some significant benefits to all educationists alike particularly to intermediate grade teachers, school administrators, and other stakeholders alike.

RESEARCH QUESTIONS

Generally, this study sought to explore the difficulties in teaching Science contents ; and the difficulties of utilizing appropriate methods and strategies by teachers in Pangutaran District, Ministry of Basic Higher and Technical Education, Division of Sulu, Bangsamoro Autonomous Region in Muslim Mindanao. Specifically, this study sought to answer the following:

1. What are the demographic profile of the intermediate grade teachers teaching Science in terms of the following in the context of Age, Gender, Educational qualification, and Teaching experience?
2. What are the extent of difficulties encountered by the teachers in teaching Science in terms of (A) teaching the content areas and (B) in terms of teaching methods and strategies used?
3. Is there significant differences in the difficulties encountered in teaching science when the data are categorized according to the following in terms of Age, Educational qualification, and Teaching experience

RESEARCH METHODOLOGY

Research Locale

The study was conducted in Pangutaran District in the Ministry of Basic Higher and Technical Education (MBHTE) Province of Sulu situated along the Southern Hemisphere of the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), Philippines. Pangutaran District is an Island district situated in the southern part of the Province of Sulu. The study comprised 30 elementary schools with 25 school principals; five officer's in-charge; and 180 faculty members.

Sampling Method

The researchers used total enumeration sampling to include all 180 elementary school teachers in the different elementary schools in Pangutaran District of Ministry of Basic, Higher, and Technical Education (MBHTE) in Sulu, Bangsamoro Autonomous Region and Muslim Mindanao (BARMM), Southern Philippines.

Meanwhile, the researchers have sought formal permission from the School Division Superintendent of Sulu for the launching of questionnaires to the respondents. Upon approval, the questionnaires were distributed to all the selected elementary Schools through their respective school administrators. . Further, the selected respondents answered the self-structured questionnaire to evaluate the difficulties of teaching science in the areas of content and methods or strategies. Completed questionnaires were

retrieved by the teaching assistants and handed over to the researchers. The questionnaire administration and retrieval lasted for a month. All questionnaires distributed were retrieved with 100% response rate.

Research Instrument

A self-structured-questionnaire was used as a data- gathering tool. Some parts of the questionnaire were extracted from the review of related studies. While others were patterned from the work of Chino (2016) and Leo (20018). The legal basis in the formulation of instrument was derived from the K-12 curriculum of 2015, particularly with regard science.

The first part of the questionnaire contains the profile or personal background of the respondents. It includes gender, age, educational qualification, teaching experience, status of appointment and number of trainings attended. The second part of the questionnaire is composed of 20 items related to difficulties in teaching science contents. This includes seven (7) questions for learning contents in Biology; seven (7) questions for learning contents in Physical Science; and six (6) questions for learning contents in Earth and Space Science. Moreover, the last part of the questionnaire is a 15 items pertaining to methods and strategies used by teachers in teaching Science.

Statistical Treatment of Data

Descriptive and inferential statistical tools was appropriately employed in the treatment of data to be gathered for this study. Frequency counts and percentage was employed to determine the profile of employees of elementary teachers of MBHTE-Sulu; While, mean and standard deviation was employed to determine the extent of difficulties encountered by the teachers in teaching Science. Moreover, T-test was used to determine the significant difference according to gender; while ANOVA the significant difference in terms of age, educational qualification, and teaching experience.

Scope and Delimitation

This investigation attempts to determine the extent of difficulties in teaching science among intermediate grade teachers in selected school in Pangutaran District, Division of Sulu. This includes the profile of the respondents as identified in problem number one. The extent of difficulties encountered by the teachers in teaching Science is delimited to the following areas of instructions: a) teaching the content areas, b) using suitable teaching methods and strategies. Other areas in classrooms instruction like utilization of learning materials and evaluation of student progress are not included in this study.

RESULTS

This section presents the findings of the study align with its objectives. The first part analyzes the demographic profile of the respondents and the second part entails of the difficulties encountered by elementary school teachers in MBHTE-Sulu in terms of subject contents and in terms method and strategies. And the last part tackles the significant difference on the difficulties in terms of contents and in terms of methods and strategies according to demographic profile of the respondents.

Demographic Profile of the Respondents

Table 1 presents the profile of the elementary school teacher in MBHTE-Sulu in terms of their gender, age, length of service and their educational qualification. As to gender, the majority (72.2%) of the elementary school teachers were female; as to age, majority(50 %) have an age bracket of 36-45 years old; As to their educational qualification, majority 110 (61.1%) have finished their bachelor's degree. And as to teaching experience, majority (44.4%) have already been in service from 5-10 years;

Table 1 : Profile of the Respondents

Gender	Frequency	Per cent
Male	50	27.8
Female	130	72.2
Age		
24-35 years old	49	27.5
36-45 years old	90	50.0
46-55 years old	30	16.7
56-65 years old	11	5.9
Educational Qualification		
Bachelor's Degree	110	61.1
With Master's Units	59	33.0
Master's Degree	11	5.9
With Doctoral Units	0	0.0
Doctoral Degree	0	0.0
Teaching Experience		
Below 5 years	60	33.3
5-10 years	80	44.4
Over 10 years	40	22.3

Difficulties in Teaching Learning Contents in Science

Table 2 provides the result of the difficulties in teaching the learning contents in science as rated by teachers themselves. The overall mean for the difficulties in teaching the learning contents was 2.74 . While the individual means are as follows : Learning content in Biology (mean = 2.59) ; Learning content in Physical Science (mean = 2.88) ; and Learning content in Environmental and Space Science (mean = 2.73)

Table 2 : Difficulties in Teaching the Learning Content in Science

Difficulties		Verbal Description
A. Learning Content in Biology		
1. Features distinguishing living from non-living systems.	2.06	Slightly Difficult
2. Characteristics distinguishing plants, animals, and other living things.	2.28	Slightly Difficult
3. Reproductive patterns and life cycles of common organisms.	2.28	Slightly Difficult
4. Factors governing the structures, functions, and behaviors of living systems.	2.72	Moderately Difficult
5. Cycles of matter, and flow of energy, through living and nonliving pathways.	2.78	Moderately Difficult
6. Reproduction and heredity, including human reproduction and contraception.	2.94	Moderately Difficult
7. Structure, function, and reproduction of cells, including microorganisms.	3.11	Moderately Difficult
Mean	***2.59***	***Moderately Difficult***
B. Learning Contents in Physical Science		
8. Properties of matter such as mass, solubility, and density.	2.89	Moderately Difficult
9. Variations in the physical and chemical states of matter and changes among states.	2.83	Moderately Difficult
10. Factors affecting the position, motion and behavior of objects.	2.89	Moderately Difficult
11. Properties of light, electricity, sound, and magnetism.	3.06	Moderately Difficult
12. Types of energy, energy sources, and simple transformations of energy	2.94	Moderately Difficult
13. States of matter and bonding in relation to molecular behavior and energy	2.94	Moderately Difficult
14. Classifications of elements and compounds.	2.61	Moderately Difficult
Mean	***2.88***	***Moderately Difficult***
Learning Content in Earth and Space Science		
15. Basic properties of rocks, minerals, water, air, and energy	2.61	Moderately Difficult
16. Causes of the seasons and seasonal changes	2.61	Moderately Difficult
17. Basic properties of rocks, minerals, water, air, and energy.	2.78	Moderately Difficult

18. Earth's structure, evolution, history, and place in the solar system.	3.00	Moderately Difficult
19. Differences between renewable and non-renewable natural resources	2.78	Moderately Difficult
20. Characteristics and importance of oceans, lakes, rivers, and the water cycle.	2.61	Moderately Difficult
Mean	***2.73***	**Moderately Difficult**
Overall Mean	***2.74***	**Moderately Difficult**

Legend: *3-50 = 4.00 = Extremely Difficult ; 2.50- 3.49 = Moderately Difficult ; 2.50 – 2.49 = Slightly Difficult ; 1.00 - 1.49 = Not Difficult*

Difficulties in Methods and Strategies

Table 3 reveals the difficulties in methods in strategies encountered by the teachers in Pangutaran District, MBHTE-Sulu. The overall mean for the difficulties was 2.73 with a verbal description of moderately difficult.

Table 3 : Difficulties in Methods and Strategies

Difficulties	Mean	Verbal Description
1. Engaging students in analyzing and interpreting data and observation	2.67	Moderately Difficult
2. Engaging students in constructing explanations and arguments	2.89	Moderately Difficult
3. Engaging students in using and applying new science concepts in variety of ways and contexts	2.89	Moderately Difficult
4. Engaging students in making connections by synthesizing and summarizing key concepts	2.83	Moderately Difficult
5. Engaging students in communication in scientific ways	2.61	Moderately Difficult
6. Engaging students to answer questions which elicits their ideas and predictions	2.67	Moderately Difficult
7. Engaging students to answer questions that will challenge their thinking	2.67	Moderately Difficult
8. Engaging students to answer questions to probe their ideas and predictions	2.78	Moderately Difficult
9. Engaging students to participate in class experiments and laboratory works	2.83	Moderately Difficult
10. Engaging students to participate in class simulation activities	2.56	Moderately Difficult
11. Engaging students in some practical work activities	2.67	Moderately Difficult
12. Engaging students in field trips	2.89	Moderately Difficult

13. Engaging students in a role play	2.83	Moderately Difficult
14. Engaging students in writing activities	2.72	Moderately Difficult
15. Engaging students to present some group activities outputs	2.50	Moderately Difficult
Overall Mean	2.73	Moderately Difficult

Legend: *3-50 = 4.00 = Extremely Difficult ; 2.50- 3.49 = Moderately Difficult; 2.50 – 2.49 = Slightly Difficult ; 1.00 - 1.49 = Not Difficult*

Difficulties in Teaching the Learning Contents and Difficulties in Methods and Strategies According to Gender

Table 4 exposes the significant difference on the difficulties of teaching the learning contents in Science as well as the difficulties in terms of choosing the methods and strategies in teaching the said subject according to gender. The following results were revealed: In terms of teaching the learning contents, the Sig. values is .085 ; and as to methods and strategies, the sig. value is .510.

Table 4: Significant Difference in Terms Difficulties of Teaching the Learning Content and Difficulties in terms of method and strategies According to Gender

	Gender	N	Mean	Sig. Val	Interpretation
Difficulties in Learning Content	Male	5	2.3800	.085	No Significant Difference
	Female	13	2.8731	.	
Difficulties in Methods and Strategies	Male	5	2.5880	.510	No Significant Difference
	Female	13	2.7885		

Difficulties of Teaching the Learning Contents and Methods and Strategies According to Age

Table 5 highlights the significant difference on the difficulties of teaching the learning contents in Science as well as the difficulties in terms of choosing the methods and strategies in teaching the said subject according to Age. The following results were found : In terms of teaching the learning contents, the Sig. values is .649 ; and as to methods and strategies, the sig. value is .598.

Table 5 : Significant Difference on the Difficulties in terms of teaching learning contents in science and difficulties in method and strategies According to Age

		Sum of Squares	F	Sig.	Decision	Interpretation
Difficulties in Learning Content	Between Groups	.562	.562	.649	Ho is Accepted	No Significant Difference
	Within Groups					
Difficulties in Methods and Strategies	Between Groups	.646	.646	.598	Ho is Accepted	.No Significant Difference
	Within Groups	.329				

Difficulties of Teaching the Learning Contents and Methods and Strategies According to Educational Qualifications

Table 6 reveals the significant difference on the difficulties of teaching the learning contents in Science as well as the difficulties in terms of choosing the methods and strategies in teaching the said subject according to educational qualification. The following results were found: In terms of teaching the learning contents, the Sig. values is .222 ; and as to methods and strategies, the sig. value is .147.

Table 6: Significant Difference on the Difficulties in terms of teaching learning contents in science and difficulties in method and strategies According to Educational Qualification

		Sum of Squares	F	Sig.	Decision	Interpretation
Difficulties in Learning Content	Between Groups	.918	.222	.222	Ho is Accepted	No Significant Difference
	Within Groups	4.131				
Difficulties in Methods and Strategies	Between Groups	1.183	.147	.147	Ho is Accepted	.No Significant Difference
	Within Groups	4.067				

Difficulties of Teaching the Learning Contents and Methods and Strategies According to Teaching Experience

Table 7 exposes the significant difference on the difficulties of teaching the learning contents in Science as well as the difficulties in terms of choosing the methods and strategies in teaching the said subject according to teaching experiences. The following results were revealed: In terms of teaching the learning contents, the Sig. values is .762 ; and as to methods and strategies, the sig. value is .313.

Table 7: Significant Difference on the Difficulties in terms of teaching learning contents in science and difficulties in method and strategies According to Teaching Experience

		Sum of Squares	F	Sig.	Decision	Interpretation
Difficulties in Learning Content	Between Groups	.390	.762	.762	Ho is Accepted	No Significant Difference
	Within Groups					
	Total					
Difficulties in Methods and Strategies	Between Groups	1.303	.313	.313	Ho is Accepted	.No Significant Difference
	Within Groups	4.104				
	Total	5.250				

DISCUSSION

This section discusses the results of the study on the difficulties encountered by the elementary school teachers in Pangutaran District, MBHTE-Sulu in the teaching leaning contents in Science. This Includes the profile of the respondents, the difficulties experienced by the teachers in teaching the learning contents Biology, Physical science and Earth and Space science and difficulties in terms of methods and strategies.

A. Profile of the Respondents

Gleaning from the Table 1, the majority 130 (72.2%) of the elementary school teachers were female and only 50 (45%) were male. This data suggest that the number of female teachers is greater than the male teachers.

In terms of age, majority 90 (50 %) of elementary school teachers of MBHTE-Sulu were belonging to an age bracket of 36-45 years old; while, 49 (27.5%) of them were at

25-35 years old. Meanwhile, 3 (25%) of them were belonging to 46-55 years old. And only 11 (5.9 %) of them were at 56-65 years old. Hence, it can be deduced that most of elementary school teachers of MBHTE-Sulu were at the middle age and still have the passion to teach.

As to their educational qualification, majority 110 (61.1%) have finished their bachelor's degree. While 59 (33.0%) of them were already having their masteral units. Further, only 11 (5.9%) has finished his/her master's degree. And none of the elementary school teachers of the said district have advanced into doctoral studies. This implies, the teachers still need to go on professional advancement so that they can best deliver the basic services expected of them by the pupils and parents. As Radjuni (2021) in his study on Teachers' Profile and Classroom Instruction Delivery: The Case of a Certain University in the Southern Philippines, pointed out that quality teachers are fundamental factor for improving classroom instruction that in turns improve the quality of education.

In terms of teaching experience, majority 80 (44.4%) have already been in service from 5-10 years; while 60 (33.3 %) have below 5 years of teaching experience; and only 40 (22.3%) of them have been serving from 10 years and above.

The findings denote that majority of the elementary school teachers in MBHTE-Sulu still needs to gain more experiences in the service to help them acquaint themselves with the challenges emanates in the teaching profession. Succinctly, Radjuni (2021) in his study on Glocalization an emerging approach in teacher Education, concluded that there is an urgent needs to recognize what the teachers need to do in order to prepare young people for a modern world in today's educational dynamism.

Abdurahman & Omar (2021) corroborates, in their study on School head's leadership practice and teachers' performance : The case of Omar District, Division of Sulu, Philippines, that 73.2% of the elementary school teachers in Sulu are female and 26.8 percent female. This finding is also supported by Abdurahman (2020) in his study on Job satisfaction and performance of the secondary school teachers in the schools' Division of Sulu, Philippines which states that 72% of all teachers are women, 12% are secondary school principals and 10% are superintendents.

B. Difficulties in Teaching the Learning Content in Science

Table 2 exposes the level of difficulties in teaching the learning contents in Science which covers learning content in Biology, Physical Science, and Earth and Space Science. In adherence to the said Table 2 , the over all mean is 2. 74 which has a verbal description of Moderately Difficult. This implies that the elementary school teachers in MBHTE-Sulu have experienced moderate difficulties in teaching the Science contents.

Categorically, the teachers found that teaching the learning content in Biology would be moderately difficult (m=2.59). When taking singly, they found teaching the following contents would be moderately difficult such as: Factors governing the structures, functions, and behaviors of living systems; Cycles of matter, and flow of energy, through

living and nonliving pathways; Reproduction and heredity, including human reproduction and contraception; and Structure, function, and reproduction of cells, including microorganisms. However, they also found the following contents to be slightly difficult such as: Features distinguishing living from non-living systems; Characteristics distinguishing plants, animals, and other living things; and Reproductive patterns and life cycles of common organisms.

In the area of Physical Science (mean = 2.88) , the teachers found that teaching the learning contents of the said subject to be moderately difficult, Specifically the following: Properties of matter such as mass, solubility, and density; Variations in the physical and chemical states of matter and changes among states; Factors affecting the position, motion and behavior of objects; Properties of light, electricity, sound, and magnetism ; Types of energy, energy sources, and simple transformations of energy; States of matter and bonding in relation to molecular behavior and energy; and Classifications of elements and compounds.

Similarly, the teachers also found that teaching the learning content in Earth and Space Science (m= 2.73) would be moderately difficult, to wit: Basic properties of rocks, minerals, water, air, and energy ; Causes of the seasons and seasonal changes ; Basic properties of rocks, minerals, water, air, and energy ; Earth's structure, evolution, history, and place in the solar system ; Differences between renewable and non-renewable natural resources ; and Characteristics and importance of oceans, lakes, rivers, and the water cycle.

Corollary to this finding, Chavan (2013) found out that most of the teachers have difficulties in understanding biology concepts like Alkali, base & oxides, Photosynthesis, sexual reproduction and even drawing diagrams in the board. In earth science, they also found difficulties in teaching the concept of earth quakes, tsunami and even water movements. In the same vein, Chakour R., Alami A., Selmaoul S. & Zaki M (2019) have likewise revealed that the major difficulties that hinder the teaching of natural science are mainly related to their field of specialization where most teachers who taught the subject were specializing in Biology during their university studies.

Finally, the finding is reinforced by Al-Momani (2017) in a different perspective. He found out that the difficulties facing the science teachers include administrative and organizational skills, personal and ethical domain, educational skills and specialized scientific literacy.

C. Difficulties in Methods and Strategies

As revealed in Table 3, The teachers found out that choosing appropriate methods and strategies would be moderately difficult as manifested by an overall mean of 2.73.

Accordingly, the teachers found the following to moderately difficult such as : Engaging students in analyzing and interpreting the data and observation; Engaging them in constructing explanations and arguments; Engaging them in using and applying new

science concepts in variety of ways and contexts; Engaging them in making connections by synthesizing and summarizing key concepts; and Engaging them in communication in scientific ways. Further, they also found the following to be moderately difficult like; Engaging them to answer questions which elicits their ideas and predictions; Engaging them to answer questions that will challenge their thinking; to answer questions to probe their ideas and predictions; and Engaging them to participate in class experiments and laboratory works; and Engaging students to participate in class simulation activities. Moreover, they likewise found the following to be moderately difficult such that Engaging students in some practical work activities; Engaging them in field trips, in role play, in writing activities, and engaging them to present some group activity outputs.

In this regard, Henderson and Wellington (2016, p39) suggest the teachers should explore 'different ways of getting students to present written records of investigations and observations and to give them the opportunity of showing that they understand a scientific topic or concept'. For this reason, recently, such form of writing a journals, questions, cartoons, and brief narrative have gained popularity as a means of helping students to understand the scientific material (Prain and Hand, 2016; hand, Prain Lawrence and Yore, 2016).

Many different methods and strategies have been suggested for involving students in lessons and engaging them in active learning (Trowbridge et al 2018; Deboer, 2018; Goodrum et al 2018). However, in order for any method to be successful, effective lesson planning is essential (Henson and Eller, 2016; Harlen, 2016). A lesson plan requires teachers to be clear about the sequence of the activities in the lessons, the purpose and goals of the lessons. The planning process involves clarification of the roles of the teacher and students. Thus, it makes easier for students to follow the teacher's material and encourages them to participate more in the lesson and take responsibility for their own learning (Good and Brophy, 2016; Calderon et al, 2016). For these reasons, effective lesson planning has a positive effective on students' learning (Brown, 2016; Tomic 2016; Glenn, 2018).

Moreover, according to the above, teachers should allow some flexibility in lesson planning in order to encourage students to participate more in the lessons. It is important to be sensitive to the mood of the class and if something is not going to well to abandon it and move on or change tack completely. Otherwise, a rigid lesson plan potentially hinders rather than helps the teaching-learning process, since it could prevent students from being involved in the lessons and reduce their creativity.

D. Difficulties in Teaching the Learning Contents and Difficulties in Methods and Strategies According to Gender

Gleaning from Table 4, there could be no significant difference found between the perception of the male and female teachers of MBHTE-Sulu in terms of difficulties in teaching the learning contents in Science as attested by the Sig. value of .085 which is above the 0.05 alpha level. Therefore, the hypothesis which states "that there is no

significant difference on the perception of male and female teachers in terms of difficulties in teaching the learning contents in Science" was hereby accepted.

Similarly, there could be no significant difference found between the perceptions of the male and female teachers of MBHTE-Sulu in terms of difficulties in choosing the method and strategies in teaching Science as attested by the Sig. value of 0.510 which is above the 0.05 alpha level. Therefore, the hypothesis which states "that there is no significant difference on the perception of male and female teachers in terms of difficulties in choosing the method and strategies in teaching Science" was hereby accepted. This implies that the perception of male and female teachers in terms of difficulties in teaching the learning contents in Science and in terms of the difficulties in choosing the methods and strategies in teaching the subject do not vary significantly.

Contrary to this finding, Osborne, Simon, & Collins (2003) found that gender differences have always been manifested in student performance in the classroom Hence, even though, there is no significant difference in matters of difficulties in teaching the science content between male and female teachers, the learning performance of the students in the classroom still vary significantly.

E. Difficulties in Teaching the Learning Contents and Difficulties in Methods and Strategies According to Age

As found in Table 5, There was no significant difference found on the perception of teachers of MBHTE-Sulu across all age groups as to the difficulties in teaching the learning contents in Science as attested by the Sig. value of 0.649 which is above the 0.05 alpha level. Therefore, the hypothesis which states "that there is no significant difference on the perception of teachers in MBHTE-Sulu as to difficulties in teaching the learning contents in Science" according to age was hereby accepted. This means that regardless of age of teachers, their perceptions were almost the same.

Similarly, there could be no significant difference on the perception of teachers of MBHTE-Sulu in terms of difficulties in choosing the appropriate method and strategies in teaching Science as to their age. This was attested by the Sig. value of 0.598 which is above the 0.05 alpha level. Therefore, the hypothesis which states "that there is no significant difference on the perceptions of teachers in terms of difficulties in method and strategies in teaching Science" was hereby accepted. This implies that, regardless of age, the perception of teachers in terms of difficulties in methods and strategies in teaching the subject do not vary significantly.

F. Difficulties in Teaching the Learning Contents and Difficulties in Methods and Strategies According to Educational Qualification

Based from Table 6, There was no significant difference found on the perception of teachers of MBHTE-Sulu as to the difficulties in teaching the learning contents in Science according to their educational qualification. This is manifested by the Sig. value of 0.222 which is above the 0.05 alpha level. Therefore, the hypothesis which states " that

there is no significant difference on the perception of teachers in MBHTE-Sulu as to difficulties in teaching the learning contents in Science according to their educational qualification" was hereby accepted. This means that regardless of educational qualifications of teachers, their perceptions were almost the same.

Also, there was no significant difference on the perception of teachers of MBHTE-Sulu in terms of difficulties in choosing the method and strategies in teaching Science as to their educational qualification. This was attested by the Sig. value of 0. 147 which is above the 0.05 alpha level. Therefore, the hypothesis which states "that there is no significant difference on the perception of teachers in terms of difficulties in choosing the method and strategies in teaching Science as to their educational qualification" was hereby accepted. This implies that , regardless of educational qualification, the perception of teachers in terms of difficulties in methods and strategies in teaching the subject do not vary significantly.

G. Difficulties in Teaching the Learning Contents and Difficulties in Methods and Strategies According to Length of Service

As revealed in Table 7, There was no significant difference found on the perception of teachers of MBHTE-Sulu as to the difficulties in teaching the learning contents in Science according to their teaching experience. This is attested by the Sig. value of 0.762 which is above the 0.05 alpha level. Therefore, the hypothesis which states "that there is no significant difference on the perception of teachers in MBHTE-Sulu as to difficulties in teaching the learning contents in Science according to their teaching experiences "was hereby accepted. This means that both new and old teachers of MBHTE-Sulu had almost shared the same perceptions in terms of difficulties they encountered.

likewise, there was no significant difference on the perception of teachers of MBHTE-Sulu in terms of difficulties in choosing the method and strategies in teaching Science as to their educational qualification. This was attested by the Sig. value of 0. 313 which is above the 0.05 alpha level. Therefore, the hypothesis which states "that there is no significant difference on the perception of teachers in terms of difficulties in choosing the method and strategies in teaching Science as to their teaching experiences" was hereby accepted. This implies that, the perception of teachers, regardless of teaching experiences, in terms of difficulties in methods and strategies in teaching the subject do not vary significantly.

Conclusions

On the basis of the findings of the study, the following conclusions are hereby drawn: That majority of the elementary school teachers in Pangutaran District were female, belonging to 36-45 years of age ; with bachelors'; and with 5-10 years teaching experience; That teaching the learning contents in Science in areas of Biology ; That learning contents in Physical Science; and Life and Space Science were found to be moderately difficult; That selecting the appropriate method in teaching science were also found to be moderately difficult. That There was no significant difference found on the

difficulties of teaching the learning contents in science in the areas of Biology, Physical Science and Life and Space Science According to Respondents' Profile. Hence, the hypothesis which states that there is no significant difference on the difficulties in teaching Science according respondents' profile" was accepted; And that there was no significant difference found on the difficulties in terms of methods and strategies according to Respondents' Profile. Therefore, the hypothesis which states that there is no significant difference on the difficulties in teaching Science according respondents' profile" was accepted.

Recommendations:

1. MBHTE-BARMM may use the findings of this study as basis for continuing professional development program of teachers cascading to the different divisions of the Bangsamoro Autonomous Regions in an effort to produce quality education standard.
2. School Division Superintendent may also use the result of this study as basis for the administration of Division Assessment Test in Science to find out some affecting the teaching and learning of the same subject.
3. School administrators may institutionalize training programs for science faculty members to help improve classroom performance.
4. Teachers must also institutionalize some intervention programs to help maximize pupils' motivation and academic achievements especially in science.
5. School supervisor must also craft a development agenda by having a school-based pedagogical training in Science in the entire district or division as a whole.

Ethical Considerations

This study prioritizes the ethical treatment of all participants, specifically MBHTE-Sulu division teachers. The researchers always aimed to safeguard the right to privacy of the respondents while exploring crucial topic as fellow academicians.

Foremost, a detailed informed consent form was provided to the respondents that clearly explains the study's purpose, procedures, potential risks and benefits, and as well as how confidentiality is maintained. Teachers were also informed that their participation is entirely voluntary and they have the right to withdraw at any point in time without any repercussions. Furthermore, anonymization of all data collected from the study was strictly observed where no particular information of the respondents was linked to the same. In respect to the privacy of the participants, data collection occurred in a private setting and said data were stored in a secured archive where only the researchers themselves can accessed. Likewise, all participants were treated with respect regardless of their dissenting views and opinions. Moreover, the researchers had strived to create a safe and comfortable space for the respondents in order to give them the leeway to share their experiences.

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EXTENDED-SPECTRUM BETA-LACTAMASE (ESBL) PRODUCING GRAM NEGATIVE BACTERIA AMONG CLINICAL ISOLATES IN SELECTED HOSPITALS IN TACLOBAN CITY

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ABSTRACT

Primary aim of the study is to determine the prevalence of extended spectrum beta-lac- tamase (ESBL) producing gram negative bacteria among clinical isolates in selected hos- pitals in Tacloban City. The study will serve as an eye opener to the health care providers for them to carry out better treatment and management of infectious diseases in response to threat of proliferation of multi-drug resistant pathogens. The study will not only be of help to the healthcare providers but also to the patients and the whole community as well. A total of eighteen (18) Gram (-) Isolates from different hospitals consisting of twelve (12)
E. coli and six (6) Klebsiella species were utilized in the study, isolated from the following samples; urine, sputum and stool. Phenotypic screening of isolates was done in the re- spective clinical laboratories of the different hospitals while the genotypic screening using polymerase chain reaction (PCR) was done at the Philippine Science High School mo- lecular laboratory. All bacterial isolates regardless whether positive or negative for phe- notypic screening were screened for ESBL production through molecular testing using multiplex PCR for TEM, SHV and CTX-M genes. Among the different Isolates, six (50%) of E. coli, and two (33.3%) of the Klebsiella species were phenotypically ESBL's producer or positive, resulting to an over-all prevalence of around forty-four percent (44.4%). On

the other hand, the overall prevalence of ESBL using genotypic screening was reported at 77.7 % (14/18), with the following aggregates of genes detected: the blaTEM gene only detected in 6% (1/18); the blaCTX-M in 44% (8/18); the blaSHV in 22 % (4/18); the blaCTX-M and blaTEM in 6% (1/18), then 22 % (4/18) were negative for any of the re- sistance genes. From the eighteen (18) isolated bacteria, eight (8) were reported as ESBL positive in the phenotypic screening, while fourteen (14) were detected using genotypic screening (PCR), therefore, six (6) were screened negative in phenotypic detection but turned out to be positive in PCR. Using the standard formula, the sensitivity of the phe- notypic screening in detecting the true ESBL's producing bacteria is at around fifty-seven percent (57.1%), which is relatively low. This means that, using the usual phenotypic screening, which is commonly used in Clinical Laboratories, will missed out potentially harmful resistant strain of Gram (-) bacteria which may affect the treatment and manage- ment of the disease; however, its specificity is at one hundred percent (100%). Based on the data obtained, a relatively high prevalence of ESBL's was observe which is an indi- cation of proliferation of these multi-drug resistant strains, coupled with the relatively low sensitivity of phenotypic screening commonly used in most Clinical Laboratories, these may have a considerable impact in the healthcare delivery. From the conclusions drawn, the following are recommended; Standard Operating Procedure on infection control must be strictly implemented among hospitals, education of medical and nursing staffs, pa- tients, and other stakeholders through symposium, seminar, workshops and other fora is also strongly recommended, and prudent prescription of antibiotics must be done.

Keywords: *ESBLs, PCR, Phenotypic and Genotypic screening, Sensitivity and Specific- ity*

INTRODUCTION

The emergence and spread of extended spectrum Beta-lactamase (ESBL) producing gram negative bacteria have increased all over the world, particularly in hospital settings. Extended Spectrum Beta-Lactamase (ESBL) producing gram negative bacteria is a multi- drug resistant and a rapidly evolving group of Beta-lactamases which share the ability to hydrolyze third-generation cephalosporins, leaving only a few reliable therapeutic options to an infection.

Extended-spectrum β-lactamase (ESBL)-producing Escherichia coli is an increas- ingly important group of community pathogens worldwide. These organisms are fre- quently resistant to many of the antimicrobial agents usually recommended for the treat- ment of infections caused by E coli or any other Gram-negative bacteria, such as penicil- lin, cephalosporins, fluoroquinolones, and trimethoprim-sulfamethoxazole. Data concern- ing risk factors, clinical features, and therapeutic options for such infections are scarce.

According to Gindri, I. etal. (2014). antibiotic resistance among gram negative bacilli is a rapidly expanding problem due to the organism's ability to mutate, and to acquire and transmit plasmids and other mobile genetic elements encoding resistance genes. Plas- mids determine species of beta-lactamase in enteric bacteria and show resemblance to

enzymes and have the ability to hydrolyze some substrates, isoelectric point, immunolog- ical specificity and susceptibility to inhibition by plasmid-mediated beta-lactamases and differ from the metallo beta-lactamases.

Transmission of ESBLs could be from touching water or dirt that contains the bacte- ria, this is especially possible with water or soil that's been contaminated with human or animal fecal matter. Certain infections that can also develop resistance to antibiotics can increase the risk of getting a bacterial infection with ESBLs, such as MRSA infection. In some cases, it may spread by carrier individuals, this is called colonization which means the body is carrying the bacteria with ESBLs but isn't actively infected.

Intestinal bacteria like Escherichia coli, Klebsiella pneumoniae and related species (Enterobacteriaceae) are some of the most common causes of infectious disease, includ- ing urinary tract infection, postoperative infection, and septicemia, among others. Ex- tended spectrum beta-lactamases (ESBL) are a group of enzymes that can be produced by species belonging to Enterobacteriaceae which have the ability to break down antibi- otics belonging to the beta-lactam group (penicillin, cephalosporins) leading to infections caused by ESBL-producing Enterobacteriaceae, which often have to be treated with car- bapenems, a group of beta-lactam antibiotics that has a wide antibacterial spectrum but cannot be administrated orally. Mostly having the condition that associated with ESBL are urinary tract infection, diarrhea, skin infection, and pneumonia.

A similar study conducted by Kumar et al (2014), found the Occurrence of Ex- tended Spectrum Beta-lactamases Producing Alpha Hemolytic *Escherichia coli* in Neonatal Diarrhea. *E. coli* organisms were isolated from 39 kids out of 120 samples. The assessment of isolates revealed alpha hemolytic nature of 23 isolates. The pres- ence of enterohemorrhagic extended spectrum β-lactamases producing *Escherichia coli* in kids is a matter of concern and public health importance as it may be due to the transmission from hospital itself during the birth time or post birth admission pe- riod.

In the study conducted by Mathur et al (2002), also shows a greater percentage of Klebsiella species as ESBL producers. A total of 678 Gram negative bacteria were included in their study. They were isolated from various clinical samples obtained from indoor patients admitted to the All India Institute of Medical Sciences, New Delhi during March to June 2001. These isolates were screened for ESBL production by the inhibitor- based test recommended by the National Committee for Clinical Laboratory Standards (NCCLS). Out of the 678 strains tested, 458 (68%) were found to be ESBL producers. Among the bacterial species, ESBL production was most common in Klebsiella spp. (80%). The proportion of ESBL positive isolates was highest from intensive care units (79%), followed by Medical Oncology (75%), Medical (54%) and Surgical wards (50%).

A study conducted by Ali et al, determined the frequency of extended spectrum beta lactamase producing gram negative bacilli among clinical isolates at clinical labora- tories. A total of 812 consecutive non duplicate gram-negative bacilli recovered from clin- ical specimens. These were isolated from various samples including urine, blood, pus

aspirate, sputum, chest tube, HVS, i/v canula/ CVP lines and catheter tips received from patients admitted in Military Hospital. Three hundred and sixty-six isolates were ESBL producers making a frequency of 45 %. *Enterobacter cloacae* was the most frequent ESBL producer. Escherichia coli (45%) was the most frequent organism isolated followed by Klebsiella pneumoniae (21%), *Pseudomonas aeruginosa* (19.2%), *Enterobacter cloa- cae* (4.6%) and *Acinetobacter baumannii* (4.4%).

The presence of beta-lactamases may be chromosomal encoded and universally pre- sent in a species or plasmid mediated. PBPs (Penicillin Binding Protein) are believed to produce evolved chromosomal enzymes which then show same-sequence homology. It then resulted in the selective pressure exerted by the beta-lactam producing soil organ- isms. The incidence of resistance to extended-spectrum β-lactamase (ESBL) becomes a major problem among Gram negative pathogens. β-lactamase production among the members of the Enterobacteriaceae family is the most common mechanism responsible for resistance to β-lactam antibiotics. Usually, their homologous sequences of amino ac- ids divide β-lactamases into four classes (A-D). The plasmid-mediated class A β-lac- tamases most frequently reported are derived from TEM (called Temoniera) and SHV (called sulfhydryl variables). Datta and Kontomichalou reported for the first time in 1965 that TEM-1 (classical β-lactamase type TEM) indicates high resistance to penicillin (am- picillin and piperacillin) and early cephalosporin (cephalosporin). It was later suggested that TEM-1 (classical TEM-species β-lactamase) gives little resistance to oxyiminocepha-losporins, monobactams and carbapenems.

ESBLs derived from TEM-1 appeared in the early 1980s with the introduction of β- lactam antibiotics into the medicine field. In most cases, ESBLs are plasmid-mediated, and most of them are mutant forms of TEM-1 enzymes that have replaced one or more amino acids. The active site is surrounded by these amino acids. (Paterson DL, Ko WC, Von Gottberg A, Casellas JM, Mulazimoglu L, Kaugman KP, *et al)*.

In study conducted by Turner et al (2009), found out that Plasmid-borne *bla*$_{SHV}$ genes in *Klebsiella pneumoniae* are associated with strong promoters. Con- sistent with this study, GenBank searches reveal that the large SHV transposon or mod- ified derivatives always carry the mutated *bla*$_{SHV}$ promoter sequence, and this has been detected on plasmids harbored by *K. pneumoniae, Yersinia pestis, Enterobacter cloacae* and *Salmonella enterica* serovar Typhimurium[8,9] (GenBank accession numbers AY532647 and AJ245670). The study concluded that both the large and small SHV trans- posons possess strong *bla*$_{SHV}$ promoters, albeit generated by different mechanisms. This suggests that SHV ESBLs are plasmid associated in *K. pneumoniae* because an ESBL- conferring mutation in the poorly expressed chromosomal gene will not confer a pheno- type. The detection of the large SHV transposon in ESBL-negative isolates in this study, and also in an ESBL-negative *Y. pestis*,[9] indicates that there has been dissemination of highly expressed, plasmid-borne non-ESBL-encoding *bla*$_{SHV}$ genes prior to the evolution of SHV ESBLs. It may be that the mutant promoter first appeared on the chromosome and was subsequently mobilized onto a plasmid, or that there have been parallel in- stances of the evolution of that promoter sequence, or that the gene has integrated back into the chromosome.

One of the most widely prescribed antibiotics worldwide are the Beta-lactam anti- biotics. These include the penicillins, cephalosporins, carbapenems and monobactams. These group of antibiotics acts on the cell wall of a bacterial cell specifically the cell wall synthesizing enzymes, also called the penicillin-binding proteins that catalyzes the pepti- doglycan wall of the bacterium, which results in the weakening of the cell wall structure, leading to cell lysis. However, introduction of this antibacterial agent was immediately accompanied by the emergence of drug resistant organisms which adapted different mechanisms to counter the effect of the antibiotics, such as Gram-negative bacteria produce *β*- lactamases enzymes which are their major defense mechanism against *β*- lactam antibiotics.

The introduction of third-generation cephalosporins into clinical practice in the early 1980s was considered as a major breakthrough in the fight against *β*-lactamase-mediated bacterial resistance to antibiotics. Resistance to this extended spectrum cephalosporins emerged quickly and the first report of plasmid-encoded *β*-lactamase capable of hydro- lyzing the extended-spectrum cephalosporins was published in 1983. Mutations occurred within the structural genes that encodes the *β*-lactamase enzyme giving rise to derivatives that possessed an extended substrate profile compared with that of the parental en- zymes. Thus, these new enzymes were coined Extended- spectrum beta-lactamase (ESBLs) to reflect the fact that they are derivatives of older enzymes and has a new ca- pability to hydrolyze a broader spectrum of *β*-lactam drugs.

The spread of ESBL-producing bacteria has expanded rapidly throughout the world, indicating the need for continuous monitoring systems and effective measures to control infections. ESBL producers have also increasingly limited therapeutic options against infections. Health care interactions including the use of antibiotics, particularly oxyiminocephalosporins, and hospital transfers are among the well-defined risk factors for the acquisition of ESBL-producing bacteria. (Kiratisin P. et al).

With the aforementioned conditions, the researchers want to evaluate the prevalence of extended spectrum beta-lactamase (ESBL) producing gram negative bacteria among clinical isolates in selected hospitals in Tacloban City. The study will act as an eye opener to the health care providers and facilitate them to carry out better treatment strategies. The study will be of help not only to the hospital care providers and patients but to the whole community as well.

Research Objectives

Detection of extended- spectrum beta-lactamase producing (ESBL) Gram-nega- tive bacteria among clinical isolates in selected hospitals in Tacloban City.

Specifically, the study aimed:

1. To determine extended spectrum beta lactamase producing Gram-negative bac- terial Isolates from selected hospitals in Tacloban City through genotypic charac- terization.

2. To compare the prevalence of extended spectrum beta lactamase producing bac- terial isolates received from the Clinical Laboratory of the selected hospital based on the following methods

    2.1. Phenotypic Screening
    2.2. Genotypic Screening

3. To determine the Sensitivity and Specificity of phenotypic characterization of ESBL's compared to the Genetic characterization.

METHODOLOGY

Research Design

Cross-sectional research design was utilized in the study which can provide a "snapshot" of the frequency and characteristics of the subject of interest at a particular point in time.

Clinical isolates

All the identified bacterial isolates in the months of March and April, 2019 that were phenotypically screened for ESBL by the selected hospital were sub-cultured into a broth and incubated for 24 hours. After incubation, a stock culture was made by inoculating again the bacteria into another freshly made broth and incubated for 24 hours. After in- cubation, the broths were added with glycerol and preserved in 1-6 C temperature. This is to maintain the viability of the isolates until confirmatory test was done.

All the strains that were phenotypically screened positive and negative for ESBL pro- duction were subjected to confirmation through molecular testing. Multiplex PCR for TEM, SHV and CTX-M genes was used to detect ESBL genes in bacteria.

DNA extraction

Before PCR was made, the stock cultures were inoculated into a quadrant plate to ensure the viability of the bacterial isolates. After 24 hours incubation, a single colony from the plate was inoculated to a broth and incubated for 24 hours. This served as our overnight bacterial broth culture for DNA extraction by boiling method. A volume of 200 uL of the 24 hours incubated cultures was used and the DNA was eluted in a final volume of 50 uL.

M-PCR Amplification

The M-PCR amplification was performed according to the method of Monstein et al. (2007). The primer-pair sequences used in the M-PCR assay, melting temperatures,

expected PCR and amplicon sizes (Table 1). All the primers were manufactured by In- qaba Biotechnical Industries (Pty) Ltd (Prefactoria, South Africa).

The M-PCR assay was performed using the Qiagen Multiplex PCR kit 1000 (Qi- agen, Hilden, Germany) for the simultaneous detection of the SHV (745 bp), CTX-M (593 bp) and TEM (445 bp) genes. Three sets of primers specific for CTX-M, SHV and TEM genes were used, (Table 1). The 25-uL Final reaction mixture consisted of 12.5uL, 2 X Qiagen Multiplex PCR Master mix (HotStart Taq DNA polymerase, Multiplex PCR buffer and dNTP Mix), Q-solution 5 x and nuclease-free water (Qiagen) and a volume of 2uL of the prepared DNA template. The reaction tubes were placed in a PX2 thermal cycler with the cycling conditions as follows: denaturation at 94°C for 10 min, 30 annealing at 60°C for 1 min, extension at 72°C for 1 min and final extension step at 72°C for 7 min. A 16s DNA was used as a control.

Table 1.

Nucleotide sequences of the primers used for the detection of the *blaSHV*, blaTEM, blaCTX-M genes*

Primer name	Sequence direction	Melting tem- perature	Amplicon size (bp)	References
Bla-SHV.SE	5'-ATGCGTTATATTCGCCTGTG-3'	45	747	Monstein et al. (2007)
bla-SHV.AS	5'-TGCTTTGTTCGGGCCAA-3'	45	747	Monstein *et al.* (2007)
TEM-164.SE	5'-TCGCCGCATACAC- TATTCTCAGAATG-3'	53	445	Monstein *et al.* (2007)
TEM-165.AS	5'-ACGCTCACCGGCTCCAGATTTAT-	52	445	Monstein *et al.* (2007)
CTX-M-U1	3'	54	593	Monstein *et al.* (2007)
CTX-M-U2	5'-ATGTGCAGYACCAGTAARGT- KATGGC-3'	58	593	Monstein *et al.* (2007)
MA1 forward	5'-TGGGTRAARTARGTSAC-	55	554	Pitout et al. (2005)
MA2 reverse	CAGAAYCAGCG-3'	55	554	Pitout et al. (2005)
	5'-SCSATGTGCAGYACCA-3			
	5'-CCGCRATATGRTTGGTGGTG-3'			

Detection of amplification products

The amplicons (products) of the PCR reactions were visualized using an Ultra Vi- olet light box (UVP products), following electrophoresis on a 1.5% (m/v) agarose gel, which contained 11.5uL of ethidium bromide (0.5 mg mL-1) (Promega, Madison). A mo- lecular weight (50-bp ladder) marker (Promega) was used as a reference.

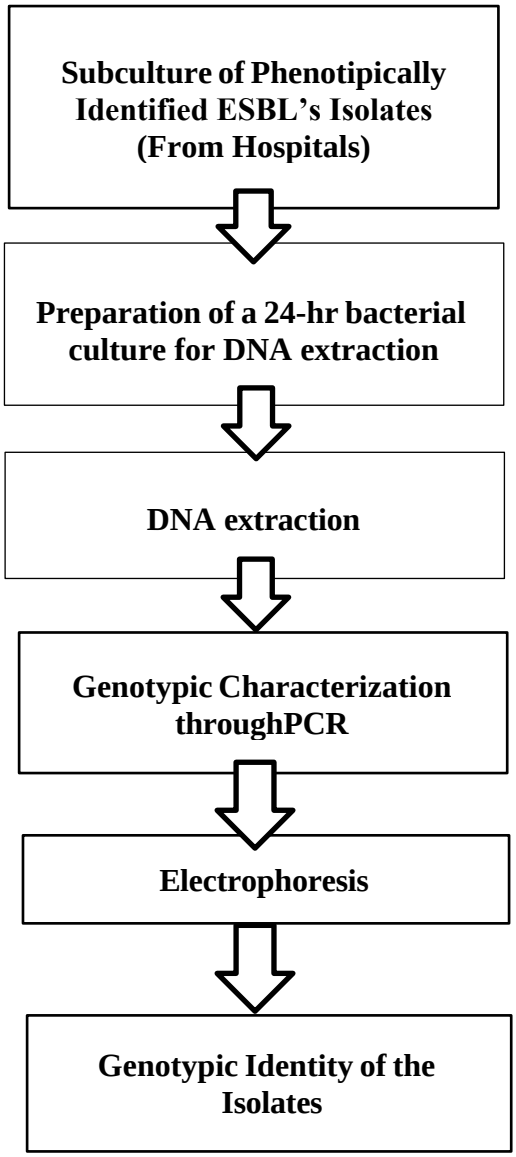


Figure 1. Schematic Diagram of Genotypic Identification of Isolate

RESULTS AND DISCUSSION

A total of 18 bacterial isolates were yielded, with the following breakdown; nine (9) from urine sample (50 %), five (5) from sputum (27.8 %), and four (4) from stool (22.2 %) as shown in table 1.

Table 2
Frequency Distribution as to the source of Specimens

Specimen	Frequency	Percentage (%)
Urine	9	50
Sputum	5	27.8
Stool	4	22.2
Total	**18**	**100**

Table 3
Frequency Distribution of Gram (-) Clinical Isolates

Isolates	Frequency	Percentage %
E.coli	12	66.7
Klebsiella	6	33.3
TOTAL	**18**	**100**

Among the isolates, majority are Escherichia coli (66.7 %) , and around thirty three percent are Klebsiella species(33.3%).

Table 4
Phenotypic Characterization of ESBL

Sample / Isolate	Urine		Sputum		Stool		Total
	Fre-quency	(%)	fre-quency	(%)	fre-quency	(%)	f/(%)
E. coli	3 (8)	38	0	0	3 (4)	75	**6 (50)**
Klebsiella	1 (4)	25	1 (2)	50	0	0	**2 (33.3)**
Total	**4(12)**	**33**	**1(2)**	**50**	**3(4)**	**75**	**8 (44.4)**

Presented in table 4 is the frequency distribution of Gram (-) isolates based on the phenotypic ESBL characteristics in relation to the source of specimen. Six (50%) and two (33.3%) of the E. Coli and Klebsiella species isolated were phenotypically ESBL's pro- ducer or positive respectively, resulting to an over-all prevalence of around forty four per- cent (44.4%).

Table 5
Genotypic Characterization (PCR)

Sample / Isolates	Urine		Sputum		Stool		Total
	Fre-quency	(%)	fre-quency	(%)	fre-quency	(%)	f/(%)
E. coli	5 (7)	71.4	0	0	4 (4)	80	**9 (75)**
Klebsiella	4 (4)	100	1 (2)	50	0	0	**5 (83.3)**
Total	**9 (11)**	**81.8**	**1(2)**	**50**	**4(4)**	**100**	**14 (77.7)**

Presented in table 5 is the genotypic characterization of which all of the 18 bacterial isolates were subjected to PCR regardless of their phenotypic results. The overall preva- lence of these ESBL genes in this study was 77.7 % (14/18).

The M-PCR assay identified the results for each of the resistance genes as follows: the blaTEM gene only detected in 6% (1/18); the blaCTX-M in 44% (8/18); the blaSHV in 22 % (4/18); the blaCTX-M and blaTEM in 6% (1/18), then 22 % (4/18) were negative for any of the resistance genes (table 6).

From the isolated bacteria, eight (8) were reported as ESBL positive in phenotypic screening (table 4), however 14 were detected as ESBL positive in the genotypic charac- terization (table 5), therefore, six (6) bacteria that were screened negative in phenotypic detection but turned out to be positive in PCR. Three (3) out of these six showed positive for blaSHV gene which correlates with the previous studies conducted by Turner et al., suggesting that SHV ESBLs are plasmid associated wherein ESBL-conferring mutation in the poorly expressed chromosomal gene will not confer a phenotype (table 6).

Table 6
Comparison between Phenotypic and Genotypic (PCR), Characteristics of Gram (-) Isolates

Isolate	Phenotypic screening	Genotypic Screening (PCR)
E. coli 390	Negative	Negative
K. pneumoniae 398-	Negative	Positive for blaSHV
U	Positive	Positive fo blaCTX-M
E. coli 333	Positive	Positive for blaCTX-M and
K. pneumoniae 303-	Positive	blaTEM
U	Negative	Positive for bla CTX-M
E. coli 406	Positive	Positive for blaSHV
K. pneumoniae 387	Positive	Positive for blaSHV
E. coli 336	Negative	Positive for blaCTX-M
K. pneumoniae 406	Negative	Positive for blaTEM
E. coli 396	Negative	Negative
E. coli 437	Negative	Positive for blaSHV
K. pneumoniae 323-	Negative	Negative
U	Negative	Negative
E. coli 395	Negative	Positive blaCTX-M
K. pneuomniae 4219	Positive	Positive blaCTX-M
E. coli – U	Positive	Positive blaCTX-M
E. coli-S-1	Positive	Positive blaCTX-M
E. coli-S-2		Positive blaCTX-M
E. coli- S-3		
E. oli – S-4		

From the data presented in tables 4 and 5, the sensitivity and specificity of pheno- typic screening compared to the genotypic screening were determined using the standard

formula for specificity and sensitivity. Based on the mathematical computations, the sen- sitivity of the phenotypic screening in detecting the true ESBL's producing bacteria is at around fifty seven percent (57.1%), which is relatively low. This means that, using the usual phenotypic screening, which is commonly used in Clinical Laboratories, will missed out potentially harmful resistant strain of Gram (-) bacteria which may affect the treatment and management of the disease, which eventually may cost the life of the patient. How- ever, its specificity is at one hundred percent (100%), this means that the phenotypic screening in this particular study was able to pinpoint all the true negative.

DISCUSSION

ESBLs in Gram negative bacteria have emerged as a major problem in hospital- ized as well as community-based patients. Nosocomial infections with Gram-negative ba- cilli are not uncommon in the local setting and can be perceived as a growing threat to public health. Since Gram-negative bacilli are the most frequently isolated organisms from clinical specimens and considering the high prevalence of ESBL production in this group there is a great need for laboratory testing methods for correctly detecting these enzymes for proper management.

The prevalence of ESBL among clinical isolates varies greatly worldwide and in geographic areas and is rapidly changing overtime. It may vary from country to country or from place to place. In our study, the incidence of ESBL was found to be 77.7% in a period of two months. In a study conducted by Siddiqui, et al in 2014 showed 61% of isolates that are found to be ESBL producer. Similarly, a study conducted by Umadevi S, et al. in India showed 69% isolates as ESBL producers.

However, studies conducted by Ali et al (45 %), Rodrigues et al (6.9%) and Menon et al (20 %), had results lower than ours. This wide variation could be explained by the high amount of geographical variation shown by ESBL producers.

ESBLs are most commonly found in Klebsiella spp. and E. coli, but they have also been detected in other members of the Enterobacteriaceae family. Klebsiella is the genus which frequently harbors ESBL as was seen in our study. In our study Klebsiella pneu- moniae 83% (5/6) was the most prevalent ESBL producer as compared to E coli. This result was concordant with studies conducted by Moland, et al. (11.3% k pneumoniae while 2.3% e coli) and Mathur et al (68%).

High percentage of ESBL producing Klebsiella pneumoniae in our study may be due to the selective pressure imposed by extensive use of antimicrobials. Patient to pa- tient transfer of ESBL producing strains of Klebsiella spp. could also be another reason as has been shown by Jain et al in their study.

In the researchers' study, 6 isolates were found to be positive in the confirmatory test but negative in the phenotypic test. Such discrepancy between screening and confir- mation test results has also been observed in other studies. This discrepancy in test re- sults aside from the previously mentioned genes), could also be attributed to some other

additional resistance mechanisms, which include AmpC enzymes, porin changes and TEM and SHV β-lactamases with decreased affinities for β-lactamase inhibitors that can mask clavulanic acid inhibition giving false negative test results.

Conclusions

Among the eighteen (18) Gram (-) clinical isolates from the different hospitals, forty four percent were phenotypically identified to be Extended-Spectrum Beta-Lactamase producers while using genotypic screening using Polymerase Chain Reaction (PCR), around seventy seven percent were detected.

A total of six (6) from the eighteen isolates screened were failed to be detected using phenotypic screening.

Based on the data obtained, the sensitivity of phenotypic screening is relatively low at around fifty-seven percent which may have an impact in the treatment and man- agement of the disease, while its Specificity is at its best at 100%.

Recommendations

Bacterial strains resistant to most classes of antibiotics will continue to emerge un- less the inappropriate use of these drugs is curtailed. Clinicians should consider ESBL production as a possibility in case of treatment failure with Beta lactam antimicrobials, thus, prudent prescription of antibiotics must be done.

Clinical Laboratories must consider as their prime responsibility to detect and re- port accurately ESBLs producers for both screening and confirmatory tests.

To prevent the spread of ESBL producing organism, Standard Operating Proce- dure on infection control must be strictly implemented among hospitals. Development and implementation of hospital antibiotic prescribing guide should also be done.

Education of medical and nursing staffs, patients, and other stakeholders through symposium, seminar, workshops and other fora is also strongly recommended, since bac- terial pathogens are constantly evolving, training must be an ongoing process.

For future researchers, the researchers of this study recommend to obtain more samples from different hospitals both public and private.

Compliance with Ethical Standards

The respondents voluntarily participated in the research study conducted by the researchers from **Doña Remedios Trinidad Romualdez Educational Foundation and Eastern Visayas State University.** The respondents understand that the research is de- signed to gather the data for the study. They were allowed to ask questions about the project and their participation. Moreover, the use of the data in research, publication, sharing and archiving has been explained thoroughly. They further agreed that taking part in the project would include being surveyed, interviewed and recorded (Audio or Video) provided that their identity is kept confidential and they have the freedom to withdraw

anytime. After the data were transcribed and confirmed by the respondents, the record- ings were destroyed.

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FACTORS AFFECTING THE INTEREST IN LEARNING AMONG INTERMEDIATE PUPILS OF PANGLIMAESTINO DISTRICT, MINISTRY OF BASIC, HIGHER AND TECHNICAL EDUCATION – SULU

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ABSTRACT

The study is a descriptive research which deals with the factors affecting the interest in learning among intermediate pupils of Panglima Estino District, MBHTE – Division of Sulu. The study delves into the socio-demographic characteristics of the participants, including age, gender, grade level, parental educational attainment, and average monthly income. Additionally, it examines the impact of teacher-related, student-related, and home-related factors on intermediate students' learning interest in Panglima Estino District, MBHTE - Division of Sulu. It also deals with the significant difference in the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District, MBHTE – Division of Sulu when data are grouped according to socio – demographic profile in terms of age, gender, grade level, parent's educational attainment, and parent's average monthly income, and the significant correlation among the subcategories subsumed under the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District, MBHTE – Division of Sulu in the context of teacher – related factor, pupils – related factor, and home – related factor. The study employed a purposive sampling approach to pick its respondents. It was discovered that the intermediate students are the appropriate age for their current grade level, that the number of students from each gender was equal, and that the parents are low-income and lack formal education. The factors always affect the interest in learning in terms of teacher – related factor and pupils – related factor and often affect in terms of home – related factor. There is no significant difference in terms of demographic profile. There is a moderate correlation among the three factors.

Keywords: *Factors affecting the interest, intermediate pupils, MBHTE-SULU, Panglima Estino District, Descriptive research.*

INTRODUCTION

Everyday obstacles and transformations serve as a kind of education. In the current globalized society, we need to be prepared for everything, particularly in the area of education, as this is one of the cornerstones for developing the human capital required to meet a variety of difficulties in the future. Safitri Desi, et al. (2023).

In teaching and learning everyone expects a better output and excellent performance on the part of teachers and pupils. However, a student's academic success is influenced by a variety of elements, whether they are personal, educational, or connected to the teacher. Change in human development is characterized by a number of factors, including continuity, accumulation, direction, differentiation, organization, and holisticism. Development may also fluctuate over time. made the point that a person's experience is influenced by the family, societal, and cultural context of their upbringing. The failure of their children can be attributed to parents who are slow to respond to schoolwork, show no concern for their children's schoolwork, or skip lessons.

Maslow's 1943 work, which Jerald Moneva and Jennifer Gonzaga (2020) identify as "A Theory of Human Motivation," provided support for this study's postulated hierarchy of requirements. The needs for love and belonging make up the third level of Maslow's five levels of needs hierarchy. A student needs to feel cared for and loved in order to feel a sense of belonging. They ask their parents for this rather frequently. Parents need to seize every chance to encourage their children to behave well and be interested in what they are studying. A learner's capacity and motivation to learn are substantially increased when these demands are met.

According to Herpratiwi and Ahmad Tohir (2022), learning motivation was most significantly influenced by learning interest. In the process of learning, interest acts as both a strong dictator and motivator. When students' interests and emotions are pleasantly piqued, they are more inclined to participate in educational activities. Learning with a passion is preferable than learning with no passion.

Donbusch et.al (1978) discovered that research has also examined several elements of family dynamics and the relationship between parenting styles and academic motivation. It was shown that less authoritarian and permissive parenting is associated with higher parental education. In a different research by Strage (1999), it was shown that kids were more self-assured, persistent, and positively oriented toward their professors when parents gave them more autonomy, demands, and supports. Pupils that have greater parental autonomy and emotional support generally outperformed their peers and had greater confidence. The most beneficial relationships for grades appear to be those including heavily involved parents and liberal autonomy grant.

Research on the differences between genders in terms of cognitive functions, intellectual skills, interests, stereotypes about daily activities, and task performance has not gotten much attention. There are two hypotheses that explain why men and women

have different personalities. According to the first, men are the ideal human being, and women should be viewed in light of men. The second discourse holds that women represent the less valued affective sphere and males represent the cognitive domain, which is positively regarded in Euro-American culture (Klein, 2004). Biological factors, cultural preconceptions, and/or stereotypes are typically blamed for the academic achievement gaps between boys and girls (Klein, 2004). MeenuDev, Ph.D. (2016) cited this.

When analyzing variations in student accomplishment, gender has been one of the variables that has been reported the most (OECD, 2004; World Bank, 2004; Nguyen and Fahey, 2001; Nguyen, 2002; Rosier, 1978; Williams, Long, Carpenter, and Hayden, 1993). Nevertheless, prior studies on gender variations in student achievement have not consistently produced meaningful findings. The impacts of gender on student accomplishment have been found to differ depending on the country, time period, subject (math or languages), and school level (primary or secondary). Results on the correlation between gender and student achievement among SACMEQ I participating nations have differed. In Malawi, males outperformed girls in reading, as per Milner, Chimombo, Banda, and Mchikoma (2001); Kulpoo (1998) reports that girls in Mauritius did better in reading than boys. However, a 1994 UNESCO research found that gender did not differ in Zimbabwe's reading comprehension (Murimba et al., 1994). According to Keitheile and Mokubung (2005), girls in Botswana outperformed boys in reading and math, with a significant difference between the sexes' reading scores.

Research Questions

This study aimed to determine the extent of factors affecting the interest in learning among Intermediate pupils of Panglima Estino District, Ministry of Basic Higher and Technical Education in Sulu during the School Year 2023-2024.

Specifically, it seeks to find answers to the following queries upon its very completion:

1. What is the socio-demographic profile of intermediate Pupil-respondents of Panglima Estino District, Ministry of Basic, Higher and Technical Education -Sulu as to:
    1.1 Age;
    1.2 Gender;
    1.3 Grade Level;
    1.4 Parent’s Educational Attainment; and
    1.5 Parents Average Monthly Income?
2. What is the extent of the factors affecting the interest in learning among intermediate pupils of Panglima Estino District, Ministry of Basic, Higher and Technical Education - Sulu in the context of:
    2.1 Teacher -Related Factor;
    2.2 Pupils- Related Factor; and
    2.3 Home – Related Factor?

3. Is there a significant difference in the extent of the factors affecting the interest in learning among intermediate pupils of Panglima Estino District, Ministry of Basic, Higher and Technical Education -Sulu when data are grouped according to socio-demographic profile, in terms of:

3.1 Age;
3.2 Gender;
3.3 Grade Level;
3.4 Parent's Educational Attainment; and
3.5 Parents average monthly income?

4. Is there a significant correlation among the subcategories subsumed under the extent of the factors affecting the interest in learning among intermediate pupils of Panglima Estino District, Ministry of Basic, Higher and Technical Education –Sulu?

METHODOLOGY

Research Design

Owing that there are hypotheses posited in this study, the descriptive-exploratory research design was used to collect the empirical data.

For the data collection, this study used descriptive survey method to gather information about the factors that affects the interest in learning of intermediate pupils at Panglima Estino District, MBHTE-SULU.

Research Locale

This study was conducted at Panglima Estino District, MBHTE-Sulu among intermediate pupils, currently enrolled at Punay E/S, Pandacan E/S, Badjang E/S, Tiptipon E/S School Year for 2023-2024.

A total of one hundred pupil-respondents were taken as respondents for this particular study. It is located in the Municipality of Panglima Estino, Province of Sulu.

Respondents of the Study

The respondents of this study were the intermediate pupils who are currently enrolled at Punay E/S, Pandacan E/S, Badjang E/S, Tiptipon E/S of Panglima EStino District, MBHTE-Sulu for School Year 2023-2024.

A total of one hundred pupils-respondents were taken as respondents for this particular study.

	Grade 4	Grade 5	Grade 6
PUNAY E/S	8	8	9
PANDACAN E/S	8	8	9
BADJANG E/S	8	8	9
TIPTIPON E/S	8	8	9
Sub total	32	32	36
Overall total: 100			

Sampling Design

The sampling design used in this particular study is the purposive sampling, which means that the researcher chooses the actual respondents of the study to ensure the proper representation of the respondents among the intermediate pupils of Panglima EStino District, MBHTE-Sulu for School Year 2023-2024.

Data Gathering Procedure

In the course of gathering the empirical data, a letter duly approved by the Dean of Graduate Studies was sought. The researcher requests a written permission from the school Division Superintendent and Principal before the questionnaire was administered to the intermediate pupils. The researcher personally delivered the questionnaire to the respondents after receiving consent for the request. The pupil- respondents were assured of their privacy. The filled out questionnaire was retrieved on the target date. Permission and assistance from the different teacher-in-charge/class adviser of the different schools of the intermediate pupils was also pursued.

Data and responses obtained and gathered was coded accordingly and was subjected to the expertise of the statistician for appropriate treatment and analysis. Subsequently, the final draft was prepared.

Research Instrument

The study used the descriptive-survey method. The researcher primarily utilized a standardize questionnaire adopted from the study of Farhan Alshammari, Reynita Saguban. ,Eddieson Pasay-an, Ahmed Altheban, Layla Al-Shammari (2017), as the main data gathering tool. The instrument was adapted for the research with minor modification.

Statistical Treatment of Data

In the course of contextualizing the empirical data, the researcher used weighted mean, frequency count, t-test, while employing the use of statistical package for the social sciences (SPSS). The analysis of variance (ANOVA) was utilized to test the hypothesis.

1) For research question 1, the researcher utilized frequency and percentage to determine the profile of the respondents;
2) For research question 2, the researcher administered weighted mean and standard deviation for the extent of the factors affecting the interest in learning among intermediate pupils of Panglima Estino, District, Ministry of Basic, Higher and Technical Education-Sulu in the context of; Teacher- Related Factor, Pupils-Related Factor and Home– Related Factor.
3) For research Question 3, When data are grouped according to gender, the t-test for independent samples was used to find the significant differences in the extent of the factors affecting the interest in learning; when data are grouped according to age, grade level, parent's educational attainment, and parent's average monthly income, One-Way Analysis of Variance (ANOVA) is used;
4) For research question 4, To ascertain the significant link between the sub-categories that were subsumed, Pearson Product - Moment link Coefficient (Pearson r) was utilized.

The rating scale intervals listed below were used in the computation results that both descriptive and inferential statistical techniques produced:

Point	Scale Value	Descriptors
5	4.50- 5.00	Always Affect
4	3.50- 4.49	Often Affect
3	2.50-3.49	Sometimes Affect
2	1.50-2.49	Rarely Affect
1	1.00-1.49	Never Affect

RESULTS

1. ***What is the socio - demographic profile of the intermediate pupils of Panglima Estino District, MBHTE- Sulu in terms of 1.1 age, 1.2 gender, 1.3 grade level, 1.4 parent's educational attainment, and 1.5 parent's average monthly income?***

Demographic Profile of the Respondents in terms of Age

Table 1.1 shows the demographic profile of the respondents in terms of age.

Forty-five percent (45%) of the respondents each are between 10 – 11 years old and 12 – 13 years old. Only four percent (4%) are 14 years old and above.

Table 1.1 Demographic Profile of the Respondents in terms of Age

Age	Frequency	Percentage
9 years old and below	6	6%
10 – 11 years old	45	45%
12 – 13 years old	45	45%
14 years old and above	4	4%
TOTAL	100	100%

Demographic Profile of the Respondents in terms of Gender

Table 1.2 presents the demographic profile of the respondents in terms of gender.

It showed that equal number were taken as respondents of the study from both male and female pupils.

Table 1.2 Demographic Profile of the Respondents in terms of Gender

Gender	Frequency	Percentage
Male	50	50%
Female	50	50%
TOTAL	100	100%

Demographic Profile of the Respondents in terms of Grade Level

Table 1.3 presents the demographic profile of the respondents in terms of grade level. It showed that 36% of the respondents belong to Grade 6 while 32 % each were taken from Grade 4 and Grade 5.

Table 1.3 Demographic Profile of the Respondents in terms of Grade Level

Grade Level	Frequency	Percentage
Grade 4	32	32%
Grade 5	32	32%
Grade 6	36	36%
TOTAL	100	100%

Demographic Profile of the Respondents in terms of Parent's Educational Attainment

Table 1.4 presents the demographic profile of the respondents in terms of parent's educational attainment. It showed that 48% of the parents reached elementary level in education while 16% reached college level. None of the parents finish masters/ doctorate degree.

Table 1.4 Demographic Profile of the Respondents in terms of Educational Attainment

Educational Attainment	Frequency	Percentage
No Formal Education	17	17%
Elementary Level	48	48%
Secondary Level	19	19%
College Level	16	16%
Masters/Doctorate Degree	0	0%
TOTAL	100	100%

Demographic Profile of the Respondents in terms of Parent's Average Monthly Income

Table 1.5 presents the demographic profile of the respondents' in terms of parent's average monthly income. It showed that 51% of the parents earn P5, 000.00 and below each month and only 9% earn P15, 001.00 and above each month.

Table 1.5 Demographic Profile of the Respondents in terms of Parent's Average Monthly Income

Parent's Average Monthly Income	Frequency	Percentage
P5,000.00 and below	51	51%
P5,001.00 – 10,000.00	22	22%
P10,001.00 – 15,000.00	18	18%
P15,001.00 and above	9	9%
TOTAL	100	100%

2. What is the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District, MBHTE – Sulu in the context of 2.1 teacher – related factor, 2.2 pupils – related factor, and 2.3 home – related factor?

Table 2.1 presents the factors affecting interest in learning among intermediate pupils of Panglima Estino District in the context of teacher – related factor, it showed that the respondents indicated ***always affect*** in all statements in the context of teacher – related factor. These include the following: my teachers use a variety of strategies, teaching aids/devices, and techniques to present the lesson (mean = 5.000, SD =.000); they are structured in their subject matter presentation by methodically adhering to the course routine; and they get along well with both the students and their co-teacher (mean = 5.000, SD =.000). The average mean of 4.963 shows that variables always affect intermediate students' motivation to learn in the Panglima Estino District when teacher-related factors are taken into account.

Table 2.1 Extent of the Factors Affecting Interest in Learning among Intermediate Pupils of Panglima Estino District in the Context of Teacher – Related Factor

Teacher – Related Factor	Mean	SD	Interpretation
1. My teachers have a good relationship with the pupils and co-teacher.	5.000	.000	Always Affect
2. My teacher enforce the regulations as stated and do not give in to peer pressure.	4.880	.327	Always Affect
3. My teachers are open to suggestion and opinion and is worthy of praise.	4.960	.197	Always Affect
4. My teachers show smartness, confidence, and firmness in making decision.	5.000	.000	Always Affect
5. My teachers have an appealing personality with good sense of humor.	4.960	.197	Always Affect
6. My teachers explain the objectives of the lesson clearly at the start of each period.	5.000	.000	Always Affect
7. My teachers have mastery of subject matter.	5.000	.000	Always Affect
8. My teachers are organized in presenting subject matter by systematically following course routine.	5.000	.000	Always Affect
9. My teachers are updated with present trends relevant to the subject matter.	4.830	.378	Always Affect
10. My teachers show various strategies, teaching aids/devices, and techniques in presenting the lesson.	5.000	.000	Always Affect
AVERAGE	4.963		Always Affect

LEGEND

SCALE	RANGE	INTERPRETATION
5	4.50 – 5.00	Always Affect
4	3.50 – 4.49	Often Affect
3	2.50 – 3.49	Sometimes Affect
2	1.50 – 2.49	Rarely Affect
1	1.00 – 1.49	Never Affect

Table 2.2 presents the factors affecting interest in learning among intermediate pupils of Panglima Estino District in the context of pupils – related factor. The respondents indicated ***always affect*** in almost all statements and among those are; I listen to my teacher well (mean = 5.000, SD = .000); I exert more effort when I do difficult assignment (mean = 5.000, SD = .000); and I want to get good grades on tests, quizzes, assignments, and projects (mean = 4.880, SD = .327). However, they also indicated ***often affect*** in statement 10 and that is on; I have a specific place to study at home which I keep clean and orderly (mean = 4.300, SD = 1.133). The average mean of 4.615 means that pupils

– related factor ***always affect*** the intermediate pupils of Panglima Estino District in terms of pupils – related factor.

Table 2.2 Extent of the Factors Affecting Interest in Learning among Intermediate Pupils of Panglima Estino District in the Context of Pupils – Related Factor

Pupils – Related Factor	Mean	SD	Interpretation
1. I listen to my teacher well.	5.000	.000	Always Affect
2. I actively participate in the discussion, answering exercises, and clarifying things I did not understand.	4.710	.456	Always Affect
3. I want to get good grades on tests, quizzes, assignments, and projects.	4.880	.327	Always Affect
4. I make myself prepared for the subject.	4.830	.378	Always Affect
5. I get frustrated when the discussion is interrupted or the teacher is absent.	4.610	.490	Always Affect
6. I exert more effort when I do difficult assignment.	5.000	.000	Always Affect
7. I study the lesson I missed if I were absent from the class.	4.710	.456	Always Affect
8. I study and prepare for quiz and test.	4.830	.378	Always Affect
9. I see to it that extracurricular activities do not hamper my studies.	3.280	1.577	Sometimes Affect
10. I have a specific place to study at home which I keep clean and orderly.	4.300	1.133	Often Affect
AVERAGE	**4.615**		**Always Affect**

LEGEND

SCALE	RANGE	INTERPRETATION
5	4.50 – 5.00	Always Affect
4	3.50 – 4.49	Often Affect
3	2.50 – 3.49	Sometimes Affect

2	1.50 – 2.49	Rarely Affect
1	1.00 – 1.49	Never Affect

Table 2.3 presents the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District in the context of home – related factor.

The respondents indicated ***always affect*** in almost all statements. Some of those statements are; my parents give me guidance (mean = 5.000, SD = .000); my cellphone helps me in my online school – related searches at home (mean = 4.860, SD = .349); and my parents instill in me the value of good education (mean = 4.880, SD =.327). However, the respondents indicated ***rarely affect*** in statement 3 and that is on; my parents hire a private tutor for me (mean = 2.080, SD = 1.339). The average mean of 4.434 means that the home – related factor ***often affect*** the interest in learning among intermediate pupils of Panglima Estino District in the context of home – related factor.

Table 2.3 Extent of the Factors Affecting Interest in Learning among Intermediate Pupils of Panglima Estino District in the Context of Home – Related Factor

Home – Related Factor	Mean	SD	Interpretation
1. My parents motivated me to improve my studies.	4.830	.378	Always Affect
2. My parents provide learning materials (books, dictionary) suitable for my learning.	4.540	.771	Always Affect
3. My parents hire a private tutor for me.	2.080	1.339	Rarely Affect
4. My parents help me in my homework.	4.660	.755	Always Affect
5. My parents give me guidance.	5.000	.000	Always Affect
6. My siblings do not disturb me when I am studying my lessons.	3.950	1.351	Often Affect
7. My cellphone helps me in my online school – related searches at home.	4.860	.349	Always Affect
8. My parents instill in me the value of good education.	4.880	.327	Always Affect
9. My parents attend our school meeting and activities.	4.830	.378	Always Affect
10. My parents experience financial problem.	4.710	.456	Always Affect
AVERAGE	4.434		Often Affect

LEGEND

SCALE	RANGE	INTERPRETATION
5	4.50 – 5.00	Always Affect
4	3.50 – 4.49	Often Affect
3	2.50 – 3.49	Sometimes Affect

2	1.50 – 2.49	Rarely Affect
1	1.00 – 1.49	Never Affect

3. Is there a significant difference in the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District, MBHTE – Sulu when data are grouped according to age, gender, grade level, parent's educational attainment, and parents average monthly income?

3.1 By Gender

Table 3.1 shows the differences in the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District, MBHTE – Sulu when data are grouped according to gender.

The t-test was used for gender since there are only two categories. The sig. value of 0.469 for teacher – related factor is greater than the p – value of .05, the sig. value of .790 for pupil – related factor was greater than the p – value at .05, and the sig. value of 0.615 for home – related factor is also greater than the p= .05, 2- tailed tests. It means that the null hypothesis is accepted.

There is no significant difference in the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District, MBHTE- Sulu when data are grouped according to their gender.

Table 3.1 t – test for Significant Difference in the Extent of the Factors Affecting Interest in Learning among Intermediate Pupils of Panglima Estino District in terms of Gender

		Mean					
Variables	**Grouping**	**Mean**	**SD**	**Diff.**	**t**	**Sig.**	**Description**
Teacher – related factor	Male	4.150	.630				Not
	Female	3.930	.750	.220	28.490	.469	Significant
Pupil – related factor	Male	3.950	.550				Not
	Female	3.780	.720	.170	29.150	.790	Significant
Home – related factor	Male	4.210	.810				Not
	Female	3.980	.790	.230	28.650	.615	Significant

Table 3.2 presents the ANOVA for significant difference in the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District in terms of age, grade level, parent's educational attainment, and parent's average monthly income.

The sig. value of 0.668 for age, the sig. value of 0.367 for grade level, the sig. value of 0.282 for parent's educational attainment, and the sig. value of 0.281 for parent's average monthly income were all greater than the p – value of .05. It means that the null hypothesis is accepted.

There are no significant differences in the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District when data are group according to their grade level, parent's educational attainment, and parent's average monthly income.

Table 3.2 ANOVA for Significant Difference in the Extent of the Factors Affecting Interest in Learning Among Intermediate Pupils of Panglima Estino District in terms of Age, Grade Level, Parent's educational Attainment, and Parent's Average Monthly Income

	Sum of Square	df	Mean Square	f	Sig.	Description
Age						
Between Groups	.117	3	0.039	0.267	.668	Not
Within Groups	13.993	96	0.146			Significant
TOTAL	14.110	99				
Grade Level						
Between Groups	.216	2	0.108	1.009	.367	Not
Within Groups	10.344	97	0.107			Significant
TOTAL	10.560	99				
Parent's Educational Attainment						
Between Groups	6.334	4	1.584	0.628	.282	Not
Within Groups	239.826	95	2.524			Significant
TOTAL	246.160	99				
Parent's Average Monthly Income						
Between Groups	.388	3	0.129	1.316	.281	Not
Within Groups	9.378	96	0.098			Significant
TOTAL	9.765	99				

Significant at .05

4. Is there a significant correlation among the subcategories subsumed under the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District, MBHTE – Sulu in the context of teacher – related factor, pupils – related factor, and home – related factor?

Pearson Product – Moment Correlation or Pearson r was used to determine if there is a significant correlation among the subcategories subsumed under the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District, MBHTE – Sulu in the context of teacher – related factor, pupils – related factor, and home – related factor.

The average value of r = 0.449 for teacher – related factor was interpreted as ***moderate correlation*** while the average value of r = 0.313 for pupils – related factor was interpreted as ***moderate correlation*** at significant value of .05 two- tailed test, and the average value of .389 for home – related factor was also interpreted as ***moderate correlation.***

Table 4. Significant Correlation in the Extent of the Factors Affecting Interest in Learning Among Intermediate Pupils of Panglima Estino District, MBHTE – Sulu in the Context of Teacher – Related Factor, Pupils – Related Factor, and Home – Related Factor

		Pearson r	Sig.	n	Description
Teacher – Related Factor	Pupils – related factor	.578	.000	100	High
	Home – related factor	.319	.000	100	Moderate
	AVERAGE	**.449**			**MODERATE**
Pupils – Related Factor	Teacher – related factor	.462	.000	100	Moderate
	Home – related factor	.163	.000	100	Low
	AVERAGE	**.313**			**MODERATE**

Home – Related Factor	Teacher – related factor	.496	.000	100	Moderate
	Pupils – related factor	.281	.000	100	Low
	AVERAGE	**.389**			**MODERATE**

*Correlation Coefficient is significant at £ = .05

Correlation Scales adapted from Hopkins (2002):
0.0– 0.1 = Nearly Zero; 0.1 – 0.3 = Low; 0.3 – 0.5 = Moderate; 0.5 – 0.7 = High; 0.7 – 0.9 = Very High; 0.9 – 1.0 = Nearly Perfect

DISCUSSION

1. ***On the demographic profile of the respondents in terms of age, gender, grade level, parent's educational attainment, and parent's average monthly income***

The result showed that almost half of the respondents are either between 10 - 11 years old or between 12 – 13 years old. Equal number of respondents were taken from each gender. Grade 6 pupils were slightly higher than Grades 4 and 5 as respondents of the study. Almost half of the parents were able to attend elementary level only in education and more than half earns P5,000.00 and below each month.

It implies that the intermediate pupils of Panglima Estino District are in the right age for their present grade level. The parents are not very educated and belong to low income families.

2. ***On the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District MBHTE – Sulu in the context of teacher – related factor, pupils – related factor, and home – related factor***

The intermediate pupils of Panglima Estino District are ***always affected*** by the teacher – related factor and pupils – related factor. Home – related factor showed that they are ***often affected*** by it.

The result implies that the different factors greatly affect the interest in learning among the intermediate pupils of Panglima Estino District.

Ratnasari (2017) emphasized that interest in learning greatly influences student achievement. According to Suprihatin (2015), the teacher is an important or influential figure because they must foster learning motivation in students for optimal and maximum leaning outcomes in any way including creativity as a teacher.

3. ***On the Significant difference in the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District, MBHTE – Sulu when data are grouped according to age, gender, grade level, parent's educational attainment, and parents average monthly income***

There is no significant difference in the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District, MBHTE – Sulu when data are grouped according to their demographic profile in terms of gender, grade level, parent's educational attainment, and parent's average monthly income. However, a significant difference in terms of age existed.

The result implies that the different demographic profiles of the intermediate pupils of Panglima Estino District cannot predict the extent of the factors that affect their interest in learning except in terms of age.

According to a World Bank study done in Vietnam in 2004, students who were older than their classmates typically performed worse in math and language. However, a study by Sirin (2005), referenced by Ngussa and Gundula (2019), found that children of high socioeconomic status parents appear to do better than pupils whose parents are from lower socioeconomic classes. Academic achievement has been found to be influenced by parents' educational attainment.

4. ***On the significant correlation among the subcategories subsumed under the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District, MBHTE – Sulu in the context of teacher – related factor, pupils – related factor, and home – related factor***

There is a ***moderate correlation*** among the subcategories subsumed under the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District in the context of teacher – related factor, pupils – related factor, and home – related factor.

The result simply implies that the different factors affect the interest in learning among intermediate pupils of Panglima EStino District to some extent.

Simbolon (2014) as cited by Sobandi (2016) stressed that a teacher plays an important role in arousing students' interest in learning so that they are involved in lessons with enthusiasm and encourage them to participate directly in learning.

Students' lack of desire to study affects their academic performance because of low self-esteem, unmet expectations in the classroom, feeling abandoned or unsupported by the family, and extreme pressure (Greate School, 2015). Egalite (2016) asserts that there is a high association between a student's familial history and academic achievement, and that differences in the school or community may be the primary factor influencing these relationships.

Conclusions

The intermediate pupils of Panglima Estino District attended school as prescribed by MBHTE-BARMM, with most parents who did not finish even high school, and earns below the minimum every month.

It only showed that teacher – related factor, pupils – related factor, and home – related factor does affect the interest in learning among intermediate pupils at Panglima Esrtino District. Hence, the academic achievement of the learners is also affected.

The absence of difference in the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District when data are grouped according to gender, grade level, parent’s educational attainment, and parent’s average monthly income only proves that profiles of the intermediate pupils of Panglima Estino District is not a determinant that affects interest in learning.

The moderate correlation in the extent of the factors affecting interest in learning among intermediate pupils of Panglima Estino District could only mean that the different factors ae interrelated to one another to some extent.

Recommendations

This study recommends the following:

1. Further study on the extent of the effect of the different factors in the interest in learning among pupils must conducted to really prove their effect on pupil’s academic achievement.
2. Future researchers on the same topic should add variables like study habits and other variables not covered by this study.
3. Teachers should constantly encourage learners to do their best in school and study harder to achieve better grades.
4. Teachers should give their best in teaching the learners and should serve as an inspiration and role model for learners to look up to.
5. Parents should provide a home that is conducive to learning and must always get involve in their children’s education.

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Compliance with Ethical Standards

First and foremost, each participant received a thorough informed consent form outlining the study's objectives, procedures, possible benefits and hazards, and confidentiality guidelines. Moreover, in instances where the trial outcomes were unaffected by the respondents' personal details, every trial data point was meticulously anonymized. To protect participant privacy, data collection was done in a private setting,

and the gathered information was stored in a safe archive that the researchers alone could access. Each member was respected in the same spirit even though their opinions and views differed. The researchers also tried to provide a friendly and safe space for the participants so they could discuss candidly about their experiences.

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FACTORS INFLUENCING LEARNING ENGLISH AS A SECOND LANGUAGE AMONG BACHELOR OF ARTS IN ENGLISH LANGUAGE STUDIES STUDENTS AT MINDANAO STATE UNIVERSITY – SULU

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ABSTRACT

The study is a descriptive research which deals with the factors influencing learning English as second language among Bachelor of Arts in English Language Studies Students at Mindanao State University – Sulu. It also deals with the demographic profiles of the respondents in terms of gender, age, and year level. It also deals on the extent of the factors influencing learning English as a second language among Bachelor of Arts in English language studies students at Mindanao State University – Sulu in the context of teacher's influence, personal attitudes influence, and classroom conditions influence. It also deals with the significant difference in the extent of the factors influencing learning English as a second language among Bachelor of Arts in English Language Studies students at Mindanao State University – Sulu when data are grouped according to demographic profile in terms of gender, age, and year level, and the significant correlation among the subcategories subsumed under the extent of the factors influencing learning English as a second language among Bachelor of Arts in English Language Studies students at Mindanao State University – Sulu in the context of teacher's influence, personal attitudes influence, and classroom conditions influence. Purposive sampling procedure was employed in selecting the respondents of the study. The research instrument is composed of two parts. Part I is about the demographic profile of the respondents which includes their gender, age, and year level. Part II is composed of 7 statements each on teacher's influence, personal attitudes influence, and classroom conditions influence. There are 5 levels to choose from which ranges from "strongly agree" to "strongly disagree". It was found out that the majority of responders were first-year BAELS students, who are primarily female and the appropriate age for their current

year level. The teacher's greatly influenced learning English as second language while personal attitudes and classroom conditions influenced the students to some extent only. There is no significant difference in terms of demographic profile except in terms of age. There is a high to moderate correlation among the three factors.

Keywords: *English Language Learning, Teachers Influence, Personal Attitudes Influences, Classroom Influence, Descriptive research.*

INTRODUCTION

English is now widely used worldwide and has established itself as an international language in many spheres of life. As a result, individuals of all ages and ethnicities have been studying English for a variety of purposes, including socializing, studying overseas, finding employment, and entertaining. But while some people pick up English quickly, others find it difficult to grasp the so-called lingua franca. Some pupils pick up new languages more rapidly and effortlessly than others. Everyone who has studied a second language for themselves or who has instructed others in the use of their second language at school is aware of this basic truth. It is obvious that some language learners succeed only because of their unwavering perseverance, hard work, and determination.

For over two millennia, the topic of language learning has been present on the globe. Currently, approaches and resources are evolving in an effort to find a universal or successful approach to teaching English. These studies have been referred to as those of linguists, psychologists, and educators, who have produced a high level of methodological growth concurrently with technical advancements (Segura, 2012; Thanasoulas, 2015). Developments, which now play a significant part in dynamic teaching and learning, and they set the global standard for English language instruction.

In 2018, Masanori Matsumoto started a study titled "Australian English Language Learners' Perceptions of Their Learning Environment and Factors Affecting Their Motivation." This is a pilot case study on second-language (L2) English learners at a Japanese university. Three students agreed to report on a weekly basis how their motivation changed during a four-week English course provided by an Australian language institute. At the start and finish of the course, they were also asked two questions. The results show that while exposure to a novel learning environment might help students develop their "L2 Selves," the same outside-of-class circumstances can either positively or negatively affect their motivation. Furthermore, throughout the trial, there is no discernible change in the level of motivation. Because the study's participants want to improve their English language skills, it explores how the main differences between English curriculums in Australia and Japan actually affect their actual learning experiences. It's possible, though, that there is more nuance than we realize in the relationship between their motivational intensity and how they perceive contextual circumstances that have influenced their past learning experiences. There can be a

discrepancy between how learners generally perceive motivational elements and how they affect both the growth and decline of drive to learn.

In 2020, Addisu Sewbihon Getie carried out research on the topic of "Factors affecting students' attitudes towards learning English as a foreign language." In Debremarkos Comprehensive Secondary School in Debre Markos town, Ethiopia, grade 10 English language learners' attitudes were investigated in this study in an effort to identify the elements impacting those attitudes. From a total of 1030 students, the researcher chose 103 sample students (10%) at random for the study. A well-considered and comprehensive questionnaire was created in order to collect data. Nine sample students were chosen specifically for a focus group discussion, and English teachers instructing Grade 10 were also chosen for an interview.The information was then examined both quantitatively and qualitatively. The study's major conclusions demonstrated that grade 10 pupils had good attitudes on learning EFL. Parents of students, native English speakers, and peer groups are examples of positive social influences on students' opinions. Nonetheless, the physical learning environment, seating arrangements, and classroom design, in addition to the English language teachers, all negatively impacted the students' attitudes. However, the results demonstrated that target language learners had favorable feelings toward the second element of the learning environment—the grade 10 English textbook. This demonstrates how the study's environment, which uses resources for teaching English to non-native speakers, positively affects students' perceptions. Therefore, reducing the target language learners' psychological variables—that is, their emotional filters—can aid in their language learning. The study's findings suggest that the actual physical learning environment has to be enhanced. To do this, the government ought to collaborate with educators, students, and the general public.

The way that teachers approach teaching second languages in the classroom might affect how well their students do. Wong (2007) asserts that there is a direct and substantial correlation between a student's proficiency in English and their teacher. While some teachers may result in subpar performance and non-directive behavior, others might inspire pupils to learn and exhibit positive behavior. The educational strategies and tactics used by educators have an impact on children's views as well. It has been discovered that many traditional language-teaching techniques are ineffective (Lightbown & Spada, 2013). Explicit instruction appears to keep students from identifying crucial inputs in subjects like phonology, grammar, and vocabulary. Furthermore, Burns (1982) found that teachers who prioritize student-centered methods create a classroom that is more dynamic and interesting than teachers who adhere to traditional methods.

Owing to the principles of learning mentioned above, this study will determine the extent of factors influencing learning English as a second language during School Year 2021-2022. The purpose of this study is to collect empirical data that will provide the foundation for a description of the current state of English language learning.

.

Research Questions

This study aims to determine the extent of factors influencing learning English as a second language among Bachelor of Arts in English Language Studies (BA ELS) students at Mindanao State University-Sulu (MSU) in during the School Year 2023-2024.

Specifically, it answered the following questions:

1. What is the socio-demographic profile of the students-respondents in terms of:
    1.1 Gender
    1.2 Age; and
    1.3 Year Level?
2. What is the extent of the factors influencing learning English as a second language among BA ELS students at Mindanao State University-Sulu, in terms of:
    2.1 Teacher's Influence;
    2.2 Personal Attitudes influence; and
    2.3 Classroom conditions Influence?
3. Is there a significant difference in the factors influencing learning English as a second language among BA ELS students at Mindanao State University-Sulu when data are grouped according to their demographic profile in terms of;
    3.1 Gender;
    3.2 Age; and
    3.3 Year Level?
4. Is there a significant correlation among the subcategories subsumed under the extent of factors influencing learning English as a second language among BA ELS students at MSU-Sulu?

METHODOLOGY

Research design

A descriptive research design was used in this study. This study aims to characterize, measure, and infer in addition to finding correlations between variables and enabling the forecasting of future occurrences based on current knowledge or phenomena observed by BA ELS students. These problem include: The socio-demographic profile of the students-respondents in terms of; Gender, Age and Year Level. Also, the extent of the factors influencing learning English as a second language among BA ELS students at Mindanao State University-Sulu, in terms of; Teacher's Influence, Personal Attitudes influence and Classroom Conditions Influence.

Furthermore, the significant difference in the extent of factors influencing learning English as a second language among BA ELS students at Mindanao State University-Sulu when data are grouped according to their demographic profile in terms of; Gender,

Age and Year Level. At the same time, the significant correlation among the subcategories subsumed under the extent of factors influencing learning English as a second language among BA ELS students at MSU-Sulu.

The primary source of the quantitative data used in this study to address the research questions was the BA ELS students of Mindanao State University-Sulu. The information used to strengthen the theoretical and conceptual frameworks of this study came from online research. Questionnaires was used to get information from the respondents.

Research locale

During the school year 2023–2024, a survey was carried out among BA ELS students of Mindanao State University-Sulu. The said institution is one from the most populated university in the Province of Sulu.

Respondents of the study

The BA ELS students of Mindanao State University-Sulu during the 2023–2024 school year were the study's respondents. The purpose of the study was to find out what the respondents think about the Factors influencing learning English as a second language. The respondents listed below have been categorized based on their areas of academic expertise.

Mindanao State University-Sulu

Bachelor of Arts in English Language Studies

Year Level	Section	Population	Frequency
First year	3	147	35
Second year	2	93	25
Third year	2	78	25
Fourth year	1	17	15
Total			100

Sampling design

In this study, a purposive sampling procedure was used in conjunction with a non-probability sample design. From at least four (4) section of BA ELS students, a total of one hundred (100) representative samples were utilized. This study's use of the purposive sampling technique guaranteed that the BA ELS students included as study samples are well represented in terms of gender, age, and year level.

Research instrument

A survey questionnaire was the instruments in this study in gathering the data on demographic profile and extent of the factors influencing learning English as a second language among BA ELS students in Mindanao State University-Sulu.

The primary tool used to collect information on the state of the factors influencing learning English as a second language among BAELS students of Mindanao State University-Sulu was the survey questionnaire. There were two parts of the research instruments that were used in this study. First, part of the questionnaire focused on obtaining the demographic profile of the respondents which includes gender, age, and year level. And, the second part focused on the collection of data on the extent of the factors influencing learning English as a second language, will be contained to the three components based on the study of Febti Mahani Batubara, Tatum Derin, Nunung Susilo Putri, & Ratih Saltri Yudar (2020) Five Factors Influencing the Students' Motivation to Learn English as a Foreign Language. It consists of the following dimensions: Teacher's Influence, Personal Attitudes Influence and Classroom Condition Influence.

Under the three (3) Categories namely, the teacher's influence, Personal Attitudes influence and Classroom condition influence were contained seven (7) items each. Each items in all these categories were answered through 5-points Likert scales such as 5=Strongly Agree, 4=Agree, 3=Undecided, 2=Disagree, 1=Strongly Disagree.

Data gathering procedure

In the collection of the data, the following steps were employed:

1) A permit to administer the questionnaire was sought from the Dean of the Graduate Studies of the Sulu State College and then from the Chancellor of Mindanao State University-Sulu, and then from the Dean of the College of Arts and Sciences and lastly from the Chairperson of the Department of Languages.

2) The researcher launched, administered, and retrieved the questionnaire personally.

Statistical treatment of data

The following descriptive statistical technique were correctly used to handle the data collected for this study:

1. For the research problem number one (1), Frequency and percentages were used to ascertain the BAELS students' profile.
2. For the research problem number two (2), The degree of the factors influencing Mindanao State University-Sulu BAELS students' acquisition of English as a second language during the school year 2023–2024 were determined using mean and standard deviation.
3. For research problem number three (3), when data are grouped according to gender, the t-test for independent samples were used to determine the significant differences in the extent of the factors influencing learning English as a second language among BAELS students of Mindanao State University-Sulu during Year 2023–2024; when data are grouped according to age and Year Level, One-way Analysis of Variance (ANOVA) was used to determine the significant differences.
4. For the research problem number two (2), The degree of correlation between the sub-categories covered by the Extent of the factors influencing learning English as a second language among BAELS students of Mindanao State University-Sulu during the School Year 2023–2024 was determined using the Pearson Product Moment Correlation Coefficient (Pearson's r).

RESULTS

1. ***What is the demographic profile of the Bachelor of Arts in English Lnaguage Studies students at Mindanao State University - Sulu in terms of 1.1 gender, 1.2 age, and 1.3year level?***

1.1 Demographic Profile of the Respondents in terms of Gender

Table 1.1 presents the socio-demographic profile of the respondents in terms of gender.

Sixty – nine or 68.3% of the respondents are females and only 32 or 31.7% are males.

Table 1.1 Demographic Profile of the Respondents in terms of Gender

Gender	Frequency	Percentage
Male	32	31.7%
Female	69	68.3%

TOTAL	101	100%

1.2 Demographic Profile of the Respondents in terms of Age

Table 1.2 presents the socio-demographic profile of the respondents in terms of age. It showed that 66 or 65.3% are between 19 – 24 years old and only 5 or 5% are between 29 – 35 years old.

Table 1.2 Demographic Profile of the Respondents in terms of Age

Age	Frequency	Percentage
18 years old and below	20	19.8%
19 – 24 years old	66	65.3%
25 – 28 years old	10	9.9%
29 – 35 years old	5	5.0%
TOTAL	101	100%

1.3 Demographic Profile of the Respondents in terms of Year Level

As gleaned from table 1.3 the demographic profile of the respondents in terms of year level. It showed that 35 or 34.7% of the respondents are first year college students while only 17 or 15.2% are fourth year college students.

Table 1.3 Demographic Profile of the Respondents in terms of Year Level

Year Level	Frequency	Percentage
First Year	35	34.7%
Second Year	24	23.8%
Third Year	25	25.3%
Fourth Year	17	15.2%
TOTAL	101	100%

2. What is the extent of the factors influencing learning English as a second language among Bachelor of Arts in English Language Studies students at Mindanao State University – Sulu in the context of 2.1 teacher's influence, 2.2 personal attitudes influence, and 2.3 classroom conditions influence?

Table 2.1 provide the result of the factors influencing learning English as a second language among Bachelor of Arts in English Language Studies students at Mindanao State University - Sulu in the context of teacher's influence.

It showed that the respondents either ***agree*** or ***disagree*** on the different statements. Among those they indicated ***agree*** are; my teacher seldom gives me the chance to express my thoughts or feelings during the lesson (mean = 4.380, SD = 1.180) and I listen attentively when the teacher presents the material (mean = 4.263, SD = 1.046). For ***disagree***, the statements are; I'm bored when the teacher presents the material (mean = 1.940, SD = 1.023); and I feel lazy to listen when my teacher speaks in English (mean = 1.720, SD =1.074). The average mean of 3.500 means that the BAELS students ***agree*** on the extent of teacher's influence in learning English as a second language.

Table 2.1 Extent of the Factors Influencing Learning English as a Second Language among Bachelor of Arts in English Language Studies Students in the Context of Teacher's Influence

Teacher's Influence	Mean	SD	Interpretation
1. My teacher seldom gives me the chance to express my thoughts or feelings during the lesson.	4.380	1.108	Agree
2. I listen attentively when the teacher presents the material.	4.263	1.046	Agree
3. I'm bored when the teacher presents the material.	1.940	1.023	Disagree
4. My teacher encourages me to speak in English every time.	4.130	.734	Agree
5. I am active when the teacher ask me to participate in the class.	3.788	.786	Agree
6. My teacher always gives me a chance to express my thoughts during class.	4.260	.799	Agree

7. I feel lazy to listen when my teacher speaks in English.	1.720	1.074	Disagree
AVERAGE	**3.500**		**AGREE**

LEGEND

SCALE	RANGE	INTERPRETATION
5	4.50 – 5.00	Strongly Agree
4	3.50 – 4.49	Agree
3	2.50 – 3.49	Undecided
2	1.50 – 2.49	Disagree
1	1.00 – 1.49	Strongly Disagree

Table 2.2 reveals the factors influencing learning English as a second language among Bachelor of Arts in English Language Studies students at Mindanao State University – Sulu in the context of personal attitudes influence.

The respondents indicated ***undecided*** in almost all statements and among those are; I'm nervous to speak English in school (mean = 2.700, SD = 1.314); I think English is difficult (mean = 2.810, SD = .849); and I often give up when I cannot finish my assignment (mean = 2.909, SD = 1.773). However, they also indicated ***agree*** in statement 6 which is on; I always try to finish the assignment independently (mean = 4.070, SD = .977); and ***disagree*** on statement 5 which is on; I prefer to talk with my friends than listening to the teacher during lessons (mean = 2.330, SD = 1.505). The average mean of 3.010 means that BAELS students ***cannot decide*** whether personal attitudes can influence or not learning English as a second language.

Table 2.2 Extent of the Factors Influencing Learning English as a Second Language among Bachelor of Arts in English Language Studies Students in the Context of Personal Attitudes Influence

Personal Attitudes Influence	Mean	SD	Interpretation
1. I think English is difficult.	2.810	.849	Undecided
2. I always speak English with my teacher and friends.	2.960	.828	Undecided
3. I'm nervous to speak English in school.	2.700	1.314	Undecided
4. I prefer to speak English in school.	3.290	.977	Undecided
5. I prefer to talk with my friends than listening to the teacher during lessons.	2.330	1.505	Disagree

6. I always try to finish the assignment independently.	4.070	.977	Agree
7. I often give up when I cannot finish my assignment.	2.909	1.773	Undecided
AVERAGE	**3.010**		**UNDECIDED**

LEGEND

SCALE	RANGE	INTERPRETATION
5	4.50 – 5.00	Strongly Agree
4	3.50 – 4.49	Agree
3	2.50 – 3.49	Undecided
2	1.50 – 2.49	Disagree
1	1.00 – 1.49	Strongly Disagree

Table 2.3 exposes the extent of the factors influencing learning English as a second language among BAELS students at MSU – Sulu.

The respondents indicated ***undecided*** in almost all statements except in statement 6 where they indicated ***agree*** and that is on; I learn well in the class that is silent (mean = 3.500, SD = 1.374). For ***undecided***, some of the statements are; I feel bored in the class that is silent (mean = 2.727, SD = 1.398); I enjoy the class that is noisy and messy (mean = 2.790, SD = 1.565); and a noisy class encourage me to express my thoughts or feelings in the English lesson (mean = 2.800, SD = 1.128). The average mean of 2.644 means that the BAELS students are ***undecided*** on the influence of classroom conditions in learning English as a second language.

Table 2.3 Extent of the Factors Influencing English Learning as a Second Language among Bachelor of Arts in English Language Studies Students in the Context of Classroom Conditions Influence

Classroom Condition Influence	Mean	SD	Interpretation
1. I enjoy in the class that is hot and dirty.	2.920	1.710	Undecided
2. A silent class stimulates me to express my thoughts or feeling in English lesson.	3.250	1.242	Undecided
3. I feel bored in the class that is silent.	2.727	1.398	Undecided
4. I enjoy the class that is noisy and messy.	2.790	1.565	Undecided

5. A noisy class encourage me to express my thoughts or feelings in the English lesson.	2.800	1.128	Undecided
6. I learn well in the class that is silent.	3.500	1.374	Agree
7. I feel lazy in the class that is messy and noisy.	3.310	1.339	Undecided
AVERAGE	**2.644**		**UNDECIDED**

LEGEND

SCALE	RANGE	INTERPRETATION
5	4.50 – 5.00	Strongly Agree
4	3.50 – 4.49	Agree
3	2.50 – 3.49	Undecided
2	1.50 – 2.49	Disagree
1	1.00 – 1.49	Strongly Disagree

3. ***Is there a significant difference in the extent of the factors influencing learning English as a second language among Bachelor of Arts in English Language Studies students – Sulu when data are grouped according to gender, age, and year?***

The t-test was used for gender since there are only two categories. The sig. value of 0.365 for teacher's influence is greater than the p – value of .05, the sig. value of 0.710 for personal attitude influence is greater than the p – value at .05, and the sig. value of 0.425 for classroom condition influence is also greater than the p – value of .05. It means that the null hypothesis is accepted.

There is no significant difference in the extent of the factors influencing learning English as a second language among BAELS students of Mindanao State University-Sulu when data are grouped according to their gender.

Table 3.1 t – test for Significant Difference in the Extent of the Factors Influencing Learning English as a Second Language among BAELS Students at Mindanao State University – Sulu in terms of Gender

Variables	Grouping	Mean	SD	Mean Diff.	t	Sig.	Description
Teacher's	Male	3.200	.630				Not

Influence	Female	3.630	.750	0.43	16.390	.365	Significant
Personal Attitude	Male	3.650	.550				Not
Influence	Female	4.380	.720	0.73	18.250	.710	Significant
Classroom Condition	Male	4.210	.810				Not
Influence	Female	4.650	.790	0.44	15.450	.425	Significant

Significant at .05 level

In Table 3.2 Analysis of Variance (ANOVA) was used for age and year level. The sig. value of 0.869 for age is greater than the p - value of .05 and the sig. value of the 0.272 for year level is greater than the p-value at .05. It could only mean that the null hypothesis is accepted in terms of age and year level.

There is no significant difference in the extent of the factors influencing learning English as a second language among BAELS students when data are grouped according to their age and year level.

Table 3.2 ANOVA for Significant Difference in the Extent of the Factors Influencing Learning English as a Second Language among BAELS Students at Mindanao State University - Sulu in terms of Age and Year Level

		Sum of Square	df	Mean Square	f	Sig.	Interpretation
AGE							Not
	Between	.902	3	0.301	0.242	.869	Significant
Groups		120.658	97	1.243			
	Within Groups	121.560	100				
	Total						
Year Level							Not
	Between	4.865	3	1.622	1.330	.272	Significant
Groups		116.550	97	1.202			
	Within Groups	121.414	100				
	Total						

Significant at .05 level

4. ***Is there a significant correlation among the subcategories subsumed under the extent of the factors influencing learning English as a second language among BAELS students, Mindanao State University – Sulu in the context of teacher's influence, personal attitudes influence, and classroom conditions influence?***

Pearson Product – Moment Correlation or Pearson r was used to determine if there is a significant correlation among the subcategories subsumed under the extent of the factors influencing learning English as a second language among BAELS students at MSU – Sulu in the context of teacher's influence, personal attitudes influence, and classroom conditions influence.

The average value of r = 0.605 for teacher's influence was interpreted as ***high correlation*** while the average value of r = 0.449 for personal attitudes influence was interpreted as ***moderate correlation*** at significant value of .05 two- tailed test, and the average value of .463 for classroom conditions influence was also interpreted as ***moderate correlation***

Table 4. Significant Correlation in the Extent of the Factors Influencing Learning English as a Second Language among BAELS students at Mindanao State University – Sulu in the Context of Teacher's Influence, Personal Attitudes Influence, and Classroom Conditions Influence

		Pearson r	Sig.	n	Description
Teacher's Influence	Personal Attitudes Influence	.564	.000	101	High
	Classroom Conditions Influence	.646	.000	101	High
	AVERAGE	**0.605**			**HIGH**
Personal Attitudes	Teacher's Influence	.548	.000	101	High
	Classroom Conditions Influence				

Influence		.349	.000	101	Moderate
	AVERAGE	**0.449**			**MODERATE**
	Teacher's Influence	.529	.000	101	High
Classroom Conditions Influence	Personal Attitudes Influence	.396	.000	101	Moderate
	AVERAGE	**0.463**			**MODERATE**

*Correlation Coefficient is significant at £ = .05

Correlation Scales adapted from Hopkins (2002):
0.0 – 0.1 = Nearly Zero; 0.1 – 0.3 = Low; 0.3 – 0.5 = Moderate; 0.5 – 0.7 = High; 0.7 – 0.9 = Very High; 0.9 – 1.0 = Nearly Perfect

DISCUSSION

On the demographic profile of the respondents in terms of gender, age and year level

The findings indicated that barely a third of the respondents were men and that over half of the respondents were women. The most of them are between the ages of 19 and 24, with very few falling between the 29 and 35 age range. Only a small percentage of respondents—roughly one-third—were fourth-year college students, whereas the majority of respondents were first-years.

It implies that BAELS students at MSU - Sulu are dominated by female students, mostly are in the right age for their present year level, and the freshmen students were more than the other students as far as year level is concern.

On the extent of the factors influencing learning English as a second language among BAELS students at Mindanao State University – Sulu in the context of teacher's influence, personal attitudes influence, and classroom conditions influence

BAELS students at MSU – Sulu agree that teacher's influenced their learning English as a second language while they are undecided on personal attitudes influence and classroom conditions influence.

The result implies that BAELS students at MSU – Sulu were sure that teachers greatly influenced their learning English as a second language. However, they are unsure whether personal attitudes influence and classroom conditions influence has something to do with their learning English as a second language.

According to Xuan and Thang's study from 2022, students' perceptions of studying English as a second language might be influenced by unrelated factors. Together with the unique qualities of teachers, such their manner and degree of experience, the factors include instructional materials, topic matter, and course format.

On the significant difference in the extent of the factors influencing learning English as a second language among BAELS students at Mindanao State University – Sulu when data are grouped according to gender, age, and year level

There is no significant difference in the extent of the factors influencing learning English as second language among BAELS students at MSU – Sulu in terms of gender and year level. However, a significant difference was found in terms of age.

The result implies that the different demographic profiles of the BAELS students at MSU - Sulu failed to detect any differences in the extent of the factors that influence their learning English as second language except in terms of age.

The study supports the Affective Filter Hypothesis Model by Stephen Krashen (1985) which suggests that a learner's emotional state, attitudes, and motivations can impact the ability to pick up a new language.

On the significant correlation among the subcategories subsumed under the extent of the factors influencing learning English as a second language among BAELS students at Mindanao State University – Sulu in the context of teacher's influence, personal attitudes influence, and classroom conditions influence

There is a high correlation among the subcategories subsumed under the extent of the factors influencing learning English as second language among BAELS students at MSU – Sulu in the context of teacher's influence. However, there is a moderate correlation in the context of personal attitudes influence and classroom conditions influence.

The result simply implies that teachers can greatly influence the BAELS students in learning English as a second language more than the personal attitudes influence and classroom conditions influence.

In a study by Castro (2018), the result indicates that the students' sentiments toward their current learning environments and their linguistic dominance are significantly correlated. The students' attitudes toward learning English have a direct impact on how well they rate their English proficiency.

Conclusions

The following was concluded based on the findings of the study:

The BAELS students at MSU – Sulu were mostly females, with a few students who attended college late because their age showed that they are supposed to be graduates already. First year BAELS students comprised the majority among the respondents of the study.

It only showed that teacher's influenced learning English as second language more than the influenced of both personal attitudes and classroom conditions.

The absence of difference in the extent of the factors influencing learning English as second language among BAELS students at MSU – Sulu when data are grouped according to gender and year level only proves that the two variables are not determinants in learning English. However, age proves that it influences learning English.

The ***moderate correlation*** in the extent of the factors influencing learning English as a second language among BAELS students at MSU - Sulu in terms of personal attitudes and classroom conditions prove that the two variables can only influence to some extent. Teachers prove that they can really influence learning English among students.

Recommendations

This study recommends the following:

1. Further study on the extent of the influence of the different factors in learning English among college students must be conducted to really prove their influence on the students learning.
2. Future researchers on the same topic should add variables like parental influence and peer influence not covered by this study.
3. Teachers should constantly encourage learners to speak English in school and avoid feeling ashamed in speaking the language.
4. English teachers should give their best in teaching the subject and should serve as an inspiration and role model for learners to look up to.
5. English teachers should avoid code switching while teaching the subject in class in order to encourage students more to speak the language.

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Compliance with Ethical Standards

The ethical care of all participants—especially the Mindanao State University-Sulu teachers—is given top priority in this study. The researcher constantly sought to protect the respondents' right to privacy while delving into important subjects.

First and foremost, the participants received a comprehensive informed consent form outlining the goals, methods, possible risks and advantages, and confidentiality policies of the study. Additionally, anonymization of every piece of trial data was scrupulously followed in cases when the respondents' specific information was not connected to the same. Regarding participant privacy, data collection took place in a private location, and the collected data were kept in a secure archive that is only accessible by researchers. Similarly, each and every member received respect regardless of their divergent beliefs and viewpoints. In addition, the researchers made an effort to provide the responders with a secure and welcoming environment so they felt free to talk about their experiences.

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FINANCIAL PERFORMANCE OF THE FUNERAL INDUSTRY AS MODERATED BY EXTERNAL FACTORS TOWARDS COMPETITIVE ADVANTAGE

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ABSTRACT

The funeral business' services, products, and accommodations are necessary and compulsory. The morbid nature of the funeral industry gave the entrepreneurs profit. The Funeral Industry in the province of Nueva Vizcaya had a primary and standard service of embalming to burial. This study sought to determine the financial performance of the Funeral Industry in Nueva Vizcaya as moderated by external factors towards competitive advantage. In determining the factors affecting good financial performance of Funeral Industry towards competitive advantage, Porter's Five Forces was used as a strategic analytical tool to assess and evaluate the level of intensity of competition in the Funeral Industry. Also, the PESTEL analysis was used to analyze and monitor the macro- environmental factors that had impact on the Funeral Industry. This study employed the quantitative-qualitative approach, particularly the descriptive design of research. Research informants were the owners or managers of the identified funeral parlor businesses, and also key employees upon the referral of the owners or managers were also included. The main mode of gathering data in this study was the conduct of face-to- face interviews. Data gathered were corroborated and utilized by information gathered from the in-depth document-scanning. Findings revealed that the Funeral Industry in Nueva Vizcaya was well-established and had good reputation considering the number of years operating in the business. Their financial performance revealed a strong financial performance which often meant it had growing revenues, and a healthy amount of free cash flow. The external factors such as political, economic, social, technological, legal, and environmental were factors of good financial performance of the funeral industry towards competitive advantage. The challenges of the funeral industry were in adherence with the government laws and regulations, inflation, flexibility in the deeply ingrained culture, varied traditions, beliefs, and values. Traditional funeral service to contemporary funeral service was highly recommended. The contextualized "Futures Thinking Model" for the funeral industry would be a tool for a re-engineered service of funeral industry in

a direction where they wanted to, understood and valued by consumers, and where their profitability increased.

Keywords: *Funeral Business, Porter's Five Forces, PESTLE, Futures Thinking*

INTRODUCTION

"To live is Christ and to die is gain" (Philippians 1:21)

"Death comes to everyone". Everyone passes this life one time or another, one way or another. It is our ultimate and final destination.

From one generation to another, different types of business organizations such as the Funeral Industry had long been in existence. The funeral industry addressed and catered to the needs of individuals and the society in general, bereaving for the passing of loved ones (Walter, 2017). The primary concern of the funeral industry was to continue and survive over time, amidst adversity, rapid competitions, and varied preferences of some customers looking for not just the basic nor standard service but eyeing for something beyond the usual service expectations (Weaver, 2016). To achieve their goals and objectives, funeral services business had to constantly adjust to their external environment as what other businesses may likewise adjust with. The environment was very dynamic and constantly changing in nature and so it was a need and a must for Funeral Industry to continuously adapt their objectives for survival purposes, and best yet, to establish a certain identity, a good reputation, and a "name" in comparison with its competitors. Some funeral businesses developed and adopted various techniques and new add-on services were added over time to cope with the threat and challenges of the strategic problems (Derogongan and Agosto, 2019). Considering the current period of global pandemic where innumerable deaths had arisen, funeral industry, though facing profitability concerns prior to this period, had been overwhelmed with the number of customers to serve. Yet, the possibility of being unable to cater to most, if not all, was also a concern on profitability requiring an adequate analysis whether, indeed, the funeral services as a business performed as they were expected to be.

The Funeral Industry

Funerals may be defined as the ritual or ceremonial disposal of a body; the two essential components were therefore a body and a ceremony or ritual. The funeral industry's structure revolved around those who managed the body rather than the ceremony (Walter, 2016). Moreover, the funeral industry services were characterized by their strong emotiveness, non-recurrence, irreversibility, uncommonness, high level of symbolism and personalization, and emotion control because funeral services quality was strongly dependent on funeral industry's integrated logistics, proximity, and integrity. The funeral industry consumers then were strongly emotion-driven at the purchase time. Funeral industry services providers should then find the right balance of emotions to express (Korai and Souiden, 2017).

The Funeral Industry business was often viewed in shallow depth. However, the services, products, and accommodations they provided were necessary and compulsory. The morbid nature of the Funeral Industry gave the entrepreneur profit from investments. The funeral industry could be divided into three categories: private cemetery owners or operators, funeral homes, and agents of burial and memorial products. (MacMurray and Futrell, 2019). The funeral industry may be morbid but remuneratively lucrative such as some high -end funeral homes, and maybe franchised which was part and parcel of what is now popularly known as the funeral industry. Funeral crematoriums were run and managed like a corporation offering life plans, complete burial packages, benefits, product development, accommodations, and perhaps a dash of Corporate Social Responsibility (CSR).

The biggest funeral services businesses were the American and were traded on the New York Stock Exchange. There were four American publicly-traded funeral services companies but Service Corporation International (SCI) was by far the biggest. It operated a vast network of 1,423 funeral homes and 374 cemeteries in the US, Canada, and Germany conducting some 300,000 funerals yearly (Lafleur, 2012).

In Asia, there was a rapidly growing aging population, as the funeral service industry developed and the market grew. There was an increasing economic value and interest in funeral services. However, Korea's funeral services were developed in a biased and unfair direction focusing only on funeral services after death. Compared to the situation of advanced funeral services in the United States, the United Kingdom, and Japan, not only the funeral but also the care of the deceased's family and acquaintances were developing (Jinho and Jeungsun, 2020).

Therefore, funeral industry was developing rapidly. The ultimate goal of life was making it a personal necessity to prepare and accept the fact that everyone needed to work on it because it was the ultimate destination of life. Funeral accommodations and death industries were pre-need due to the fact that individuals could not foresee and anticipate when it was their time to die (Hobbs et al., 2022).

The evaluation of competitiveness and sustainability of financial performance of funeral industry showed that management accounting techniques played an important function in creating a sustainable competitive advantage for a funeral industry (Wadesango et al., 2021).

Along with its growth came the need to stay competitive. To stay competitive, there was a need for rapid blow-up and expansion in funeral accommodations sector fueled by various factors such as demographic profile. Funeral industries competed through marketing such as competitiveness and building a good reputation such as being reliable (Halpenny, 2013).

The funeral industry, just like any other industries, was also an organized industry. The National Funeral Directors Association (NFDA) was the world’s leading and largest

funeral service association catering and serving to 18,500 individual members who represented nearly 10,000 funeral homes in the United States and 43 countries around the world (nfda.com). In the Philippines, the funeral business members were organized through the Philippine Mortuary Association Inc. consisting of 420 funeral members nationwide advocating policies that would enable healthy growth in the death care sector and provide access to decent death benefits to Filipinos from all walks of life. The organization was headed by Father Renato Dychangco who had been advocating policies that would properly define the mortuary industry and its function in the community (Association-Backs-Bills-Improve-Standards-Death-Care-506811, 2016).

The leading and well-known funeral companies in Manila, Philippines included: (1) Arlington Memorial Chapels and Crematory, Inc. It was founded by Nestor Lopez Jose in 1982 who was previously awarded the Best of the Best Funeral Home in Asia and recognized by the National Funeral Directors Association (NFDA); (2) Sanctuarium. It was awarded as 2004 Philippine Marketing Excellence Award, Most Outstanding Columbarium Complex, 2003 Family & Consumers Choice Awardee, and Most Outstanding Comprehensive Memorial Package. It was the only structure with a mortuary, crematorium, columbarium, religious chapels, and audio-visual archives all in one; (3) Loyola Memorial Chapels & Crematorium, Inc. (LMCCI). The Loyola Memorial was founded by the late senator Gil Puyat in 1972 and was a sub-component of the Loyola Group of Companies which included the Loyola Life Plan. It offered “Premier” and “Super Deluxe” chapels (Guerrero, 2014). It was then described as the most modern and complete complex of 16 memorial chapels and mortuary services set up in Asia. (4) La Funeria Paz. It started with one small chapel built at the corner of Calle Paz (now C.M. Recto Ave.) and Calle Almanza (now T. Mapua St.), in the heart of Binondo. It has remained strong and unwavering in its commitment to continuously provide excellent memorial service. Testament to this, La Funeraria Paz had been privileged to have celebrated the lives of distinguished personages such as Apolinario Mabini, Melchora Aquino, President Diosdado Macapagal, and Vice President Fernando Lopez, to name a few; (5) The Shrine of St. Thérèse of the Child Jesus. It was envisioned to be the center of devotion to the Saint in Asia with 168 basement parking slots which were also conveniently available to the Shrine and Columbarium visitors. The Columbarium also featured an Ecclesiastical Museum where artworks about the life of St. Thérèse were displayed. It also had a security access system in place to ensure the safety and peace of mind of its visitors; (6) Heritage Park (Heritage Memorial Park). It was the country's premier memorial services provider. Services include Garden Monument, Columbary, Pre-need Interment Plans, Pre-need Cremation Plans, Pre-need Memorial Plans (Full- Body), and Memorial Lots; (7) St. Peter Group of Companies. It was founded by Francisco
M. Bautista (1914-1996) and had been in the business for more than 30 years. St. Peter Group of Companies were deathcare experts and the choice of every Filipino in the delivery of world-class deathcare services. The funeral company operated a “high-end” and “elite” memorial chapel in Quezon City, Cebu City, and Davao City. There were memorial chapels in Sta. Mesa, Manila and in Alabang, Metro Manila along with more than 200 chapels nationwide. A corporate profile of the firm also offered an “e-Burol” accommodation which would enable families, relatives, and friends who could not attend to the wake to view the remains anywhere in the world through their website; (8) Mother

Theresa Crematorium and Columbarium. It was a crematorium business only, located in C-3, East Grace Park, Caloocan, Metro Manila; (9) Funeraria Floresco. It was established in 1934, located in 219 Gen Luna, Malabon, Metro Manila; and (10) The Manila American Cemetery and Memorial in the Philippines. The headstones were aligned in 11 plots forming a generally circular pattern. It occupied 152 acres on a prominent plateau, visible at a distance from the east, south, and west. It contained the largest number of graves of dead military personnel of World War II with a total of 16,859 (Sledge, 2005).

In terms of the data on the number of deaths which eventually required the services of funeral services, it had reached 590,709 in 2018, an increase of 2.0 percent from the previous year's 579,237 deaths. This was equivalent to a crude death rate (CDR) of 5.6, or about six (6) persons per thousand population. In 2018, an average of 1,618 persons died daily. This translated to 67 deaths per hour or one (1) per minute (www.psa.com). One of the leading causes of death in the Philippines was ischemic heart disease striking around 88.4 thousand people. The other four leading causes of death were malignant neoplasms, cerebrovascular disease, pneumonia, and diabetes mellitus. Therefore, funeral industry in the Philippines was a large and growing industry. The cost for funeral practice ranged from 416,00 and 520,000 pesos. This business was viewed by most as displeasing, but the products and services they provided were necessary. The morbid nature of the business meant that individuals could profit from investments in funeral industry (San Jose et al., 2022). As it was a known fact that for every product and, or service offered and availed of, corresponding fees or charges entailed. Thus, any business when efficiently managed may lead to a state of profitability. This included the funeral industry businesses.

In Nueva Vizcaya, there were a few funeral businesses. There were only eight (8) registered as identified by the Department of Trade and Industry because of their continuous services and reputation. Among the identified funeral industries were Carbonel Funeral Homes in Bagabag, Christian J Funeral Homes in Bambang, Funeraria Carbonel in Solano, Gambito Funeral Home in Bayombong, Everlasting Funeral Home in Aritao, Dos Hermanos Funeral Home in Solano, Rosete Funeral Home in Quezon, and St. Peter Funeral Home and Chapels in Bayombong.

Nueva Vizcaya has 4,427.248 estimated Land Area (sq. Km) and Population Density based on PPDO-GIS Data with Gross Population Density of 94 per sq. km (Philippine Statistics Authority, 2015 Census). According to the article Registered Deaths in the Philippines (2018), there were 2,670 (5.7%) total deaths (doh.gov.ph). Among the industry groups, funeral and related activities recorded the highest income in the province (Sector S_2017 ASPBI Publication psa.gov.ph, 2017).

The motivation behind studying this sector was the same reason why others engaged into Funeral Industry - death was inevitable and there was revenue in death. Anticipated high profits played a vital role in motivating entry into the sector (Wanjiru, 2001) although in the National level, no profitability study had been conducted because the funeral industries seldom disclosed their financial statements.

Furthermore, no study had been conducted in the region on profitability analysis of funeral industry. Hence, the aim of this study was to explore and examine factors and determinants that affected the profitability growth of the funeral industry in Nueva Vizcaya. It also more broadly contributed to the understanding of the dynamic revenue status and stigma of funeral industry. An entrepreneur from Africa had attained all his wealth through death. Death was therefore profitable (Röschenthaler, 2015).

Funeral industry had attracted little attention as research subject but it was an interesting subject. Although death and industry were both considered subjects of interest, some people considered them contradictory concepts. However, the basis of funeral industry activity was precisely its role in linking death and the industrial and economic context (Tanaka, 2012).
This study would be beneficial to the Department of Trade and Industry as basis for further evaluation of Funeral Homes business in the Province. Funeral industry of Nueva Vizcaya, as they would realize, was a daunting entrepreneurship, yet a doable task. This study may provide additional insights on sustaining this kind of service business.

Factors of Good Financial Performance of Funeral Industry

Earnings, revenue, and sales in particular from funeral homes services may be attributed from the death rate, progressive price increases of products and services, the product mix, and the economy's recent conditions. Subsequently, investors aiming for higher-revenue and above-average earnings tended to make add-on services elsewhere. However, what the funeral industry lacked was prospecting of key-partner businesses with more or less the same field to compensate stability. One of the most deterrent obstacles in this kind of business was skipping out traditional burials especially practices, traditions, and customs towards cremation. This trend had been going on for years at a late stage of acceptance, but at a steady pace. Cremations then tended to lower revenues (Ellig, 2015). This was in the past years, though observations were evident revealing that the cremation option was becoming favorable by some individuals which may present a better picture in terms of a good product offering and, eventually, with good business standing.

The existence of businesses was to generate profits, and that was the main reason why people engaged into business, and funeral companies were no exemption. It was the same but with some humane factor on it because they dealt with sad and grieving emotions of those who were left behind. The funeral industry was a constantly sustainable business because of the clients' prospective which was sending family members passing to the next life. In 2018, there were about 7.56 deaths per 1,000 inhabitants worldwide (statistica.com). Philippines' reported deaths in 2018 reached 590,709, an increase of 2.0 percent from the previous year's 579,237 deaths. This was equivalent to a crude death rate (CDR) of 5.6 or about six (6) persons per thousand population. In 2018, an average of 1,618 persons died daily (psa.gov.ph). As of November 7, 2021, there had been almost 250 million cases of coronavirus (COVID-19) worldwide. The disease had impacted almost every country and territory in the world, with the United States confirming nearly one-fifth of all global cases (who.com). Therefore, the COVID-19 pandemic was subject

to restrictions on funeral sizes and practices (Burrell, 2020). However, just like other business industries, funeral homes had to recognize and distinguish themselves if they were to earn an edge in the market competitively amidst global pandemic, either attract new clients or retain existing clients in the form of families they had served.

According to the World Funeral News of 2021, the world's leading and major funeral home companies encountered sustained growth and general upward economic trend. Despite the drastic effect suffered between the months of March and May, 2020, most had managed to overcome the crisis caused by the Covid-19 global pandemic and were ever ready preparing to face a still uncertain future. Four (4) of the top 10 funeral companies were located in North America, one (1) in Australia, three (3) in Europe, and two (2) in Asia. These were the top 10 funeral home companies in the world: (1) Service Corporation International. The company had a turnover of $3,230 million with a profit of
$762 million and a gross margin of 23.5% in 2019, multiplying the figures of its immediate rival in the world ranking. This accorded them the ranking of the largest funeral home companies in the world, with the headquarter in Texas, USA; (2) Le Groupe français des services funéraires (OGF). It was the French leader in the Funeral Industry between September, 2019 and September, 2020. It had a turnover of 580 million euros; (3) Matthews International. It was the largest supplier of copper and granite monuments in the United States. Its turnover in 2020 exceeded $670 million, with a gross profit of $154.3 million and a gross margin of 23.02%; (4) Invocare. It operated in Australia, New Zealand, and Singapore through its network of over 270 funeral homes and 16 cemeteries and crematoria. It employed around 1,800 people worldwide and had revenues of $500.35 million in the last year; (5) Co-operative Group Limited. It was the UK's largest consumer cooperative. It included legal and funeral services, insurance, e-pharmacy, and retail and wholesale food businesses. In 2020, it had a turnover of $293.5 million, with a gross margin of 26.58% and a total amount of 104.6 million gross profit; (6) Dignity Plc. It was one of the leading providers of funeral services and prepaid plans in the UK market, and the company achieved revenues of $338.9 million and a profit of $177.2 million by 2019;
(7) StoneMor Partners L.P. It was the second largest network of funeral homes and cemeteries in the United States and, according to the company's published balance sheet, the revenues for the third quarter of 2020 were $76.9 million and the revenues for the last nine months were $218.8 million; (8) Carriage Service. It was one of the largest funeral home companies in the United States with a sustained and stable growth trend in 2019 which obtained revenues of 274.1 million dollars with 79.59 million of gross profit;
(9) Fu Shou Yuan International. Its headquarters was in Shanghai, China. It achieved revenues of $283 million in 2019, making it one of the largest funeral home companies worldwide; and (10) Nirvana Asia Group. It had headquarters in Kuala Lumpur, Malaysia, Nirvana Asia Group. It was one of Asia's largest funeral home companies in 2019 and had a turnover of 198 million dollars with a gross profit of 50.7 million.

A remarkable number of funeral homes in the United States were family-owned businesses. They contributed to the overall economy and the society throughout generations to create wealth, provide employment opportunities, and serve the communities that surround them. Factors like family succession values and standards, the competitive game, the players, strategies, payoff and rewards

were contributors to

the improvement of business continuity and profitability (Austin, 2015). According to the National Funeral Directors Association (NFDA), statistics showed that there were more or less 19,322 funeral homes, approximately 115,000 cemeteries, 1,155 crematoriums, and an estimated 300 coffin sellers (Hemanson, 2013). The total revenue from the funeral industry alone was about $14.2 billion in 2016 (Lawton, 2016).

One of the most important objectives of any type of business was to earn profit. Secondary to it was increasing market share and increasing sales volume. Obviously, the death industry prided and proved itself in providing recession-proof services because, after all, death was unavoidable, and someone must take in the deceased bodies by providing services to the bereaved families and friends. The vital motivation of entry into the funeral arena was anticipated high profits (Van Cranenburgh, 2014). However, some individuals also engaged into funeral industry to continue operating the businesses inherited from their parents and relatives. However, some also turned to local politics (Rygiel, 2016). Therefore, there was clearly money to be made in the funeral industry and because death was inevitable, there would always be a market everyday (Canning, 2012). This remained as funeral industries' primary source of profit. As an indicator of efficiency, there must be profit. Profit was a financial gain. It was the earnings from sales or revenue after deduction of all costs, including interest payment on debt and tax (Hasanaj, 2019). Therefore, a high profit was an indication that a business was efficiently and effectively utilizing its funds (Ponsian et al., 2014). Due to market liberalization, a business' ability to increase its profit, to survive, and be competitive was more of an issue nowadays (Dereli, 2015).

In the funeral industry, profits were not the only major goal, the company was more concerned with the goals and prospects of the bereaved family. If the customer was satisfied, they would definitely recommend to their family and friends (Beard and Burger, 2017). Feasibility studies proved that the funeral industry business was profitable and, thus, viable (Granada, 2019). The necessity of firms optimizing their level of working capital management and maintaining enough liquidity affected the profitability (Singhania, 2017).

Moreover, in the area of finances, so as to attain right decisions appropriate to the business, management accounting techniques such as capital budgeting, product costing, and forecasting also played important function in creating a sustainable competitive advantage for an organization (Dana et al., 2020). Therefore, funeral businesses likewise needed such concepts and were actually utilized.

External Factors

With respect to external factors, the funeral industry businesses enabled themselves to assert current business situations in order to develop appropriate strategic actions, novel strategies, ability to foresee the future trends in the funeral industry, and appropriate measures must be implemented in advertising, technology and price standardization (Borres, 2020).

The rise of new corporate funerals and the growing trends in technology switched people's demands on how they dealt with death. It was the start of a great challenge on how to compete with the established and well-known giants. Also, less-performing funerals could not cope up with the trend and expenses probably because most people tended to go over to the corporates than the typical local funeraria. Another turning point was the practice of cremation (Derogongan and Agosto, 2019).

Even if it was a satisfactory market, threats could result to unfavorable conditions for the funeral sector development, so the improvement and the correct use of strategy and marketing tools could generate greater efficiency in service, as well as the innovation could be a relevant alternative to avoid better structured competitors (Anacleto et al., 2019). On taking importance in shaping competition in the funeral industry, there were different factors that might be external or internal contributing to how competition was formed among the industry players. Every business firm had a basic structure and foundation, or a set of fundamental economic and technical characteristics that gave rise to these competitive forces. According to Porter et al. (1980), competition was a concern among industries dealing with services as well as those selling products. Coupled with dynamic and fast changing environment, as competition increased, it had become increasingly important also for firms to understand that the type of industry they were engaged into had a need to develop effective strategies to gain competitive advantages in the market.

The funeral industry's performance, behavior, and status were affected by its competitors and their strategic competitiveness. The degree of competitive advantage in the market referred to the degree by which individual firms or businesses in the entire market needed to influence the price or other variables in which the product or services were offered and sold. In the business of funeral services for example, the old-fashioned and traditional funeral industry included services like embalming, coffin, accommodation, and burial in a cemetery which emerged as a result of four sources in American society: Industrial Revolution, Civil War, the advent of a refined code of conduct and practices as a result of incremented wealth and as a result of social prosperity, and transmuting cultural views on death (Burger and Beard, 2015). Nowadays, innovations in their products as well as in delivering services had, over time, been integrated.

As cultural traditions became less strict, change and innovation were expected in the coming years. The brandscapes became more widespread in funeral industry products and services and even contributed to 'themed' funerals and funeral settings (Sanders, 2012). The most common types of funeral settings were traditional funeral service and committal funeral service, also known as graveside service. Also, today's contemporary funeral industry adopted and habituated hearty and convivial social media. The internet itself was a synchronization to both public demands and to the growing understanding of how technologies could be accustomed to secure funeral orchestrating, family grieving and sadness, and remembrance of the dead (Gibbs et al., 2017).

Funeral industry owners needed to embrace and adopt the use of technology not only to get their establishments' name on the Internet but also to reach out costumers

who preferred to compare prices and services in a digital manner. Easy-to-access digital presence was essential for funeral home success and profitability (Beard and Burger, 2017). A funeral and crematorium Industry business in a rural location built social capital, outlining the concept as a fluid and dynamic, time-influenced phenomenon rather than a discrete, fixed network that occasionally created new links. Core social capital described existing bonds between actors within a group while the augmented social capital of inter- group bridging created a more expansive network (Moyes et al., 2015).

Challenges of the Funeral Industry

The rising environmental and ecological concerns felt across the world's communities had, alongside a rapid change of consumer preferences and product expectations, been transforming the core of the funeral service industry. As a result, the digitalization process of funeral homes intensified in the last years in order to incorporate the new market trends. Moreover, the idea that a funeral must be a place to mourn the deceased had become outdated being substituted by a service that allowed the celebration, festively, of the deceased's life (Costa and Oliveria, 2021).

The actual purpose of funeral was to honor the dead for their meritorious services on earth, usher them into eternal glory, and integrate them into the next world. However, there were often some skirmishes that militated against these positive motives. As a result, some families that used to be closely knitted end up being divided (Adu-Gyamfi, 2020). The funeral industry's professionalization of one's laymen pursuits, industrialization, and urbanization changes revealed that culture or 'way of life' was altered, and accordingly, so was the culture of death (Zlomke, 2013).

During this time of pandemic, the context of the public health crisis generated actions and a need to re-adapt the firm's logistics policy for transport, procurement, and inventory in order to ensure continuity of the funeral services rendered without detriment to the consumers of the funeral plans and new clients (de Assunção, 2020).

The combination of high poverty and low political stability aggravated the increasing financial burden of death costs on households prompting them to a more active interference into funeral regulation (Sadigov, 2020). The funerals costs were distress purchases and so debt was the outcome of irrational decisions made while emotionally overwhelmed. These discourses ignored how people might use funeral purchases in dealing with the experience of death as they obscured rather than explained the emotionally infused decision-making that incurred funeral debt (McManus and Schafer, 2014).

The challenges also included political scenario, economic growth, and social relations especially among family. To sustain such business, local government must extend support and protect it against corporate funeral homes, against politicking, and eventual loss of culture and family (Derogongan et al., 2019).

Moreover, the competitors were the main challenge of the funeral industry, while its opportunity included the improvement of services by offering cremation in the future for non-crematorium services providers. Furthermore, funeral industry's corporate social responsibility programs should include programs for the indigents, proper waste disposal, observance of proper hygiene and sanitation, compliance with the Department of Environment and Natural Resources, and government regulations (Granada, 2019).

The funeral industry had grown over the years and with intense competition had found the need to employ sales representatives. In order to increase sales and a customer base, funeral industry had adapted to personal selling which required the need of sales people to be physically in contact with customers (Chikowore, 2017).

Furthermore, restrictive regulations affected the revenues of funeral industry and services to a much greater extent than they affected the revenues of cemeteries and crematories, and in some cases the regulations even increased funeral homes and services' share of industry revenues. Thus, it appeared that funeral industry received most of the benefits of regulation (Ellig, 2015).

The shifts in the practices and beliefs around death were mediated by individuals, households, and businesses who had historical affinity towards movement. The mobile orientation influenced the perception of rites and responsibilities surrounding death, and more mobile 'ways of dying' in turn created new subjectivities and new ways in which to imagine relations between the living and the dead. A steadily more numerous and prominent group of entrepreneurs were well-placed to shape these processes through their role as cultural mediators and technological innovators and their particular emphasis on maintaining a flow of bodies (both dead and alive) between rural and urban areas (de Witte, 2011). Anxiety for death was relatively high compared to the past. The funeral industry played the role of providing meaning, value, and concepts to counter that anxiety. On the other hand, the provision and consumption of modern funeral services were on a teleological level to construct a ''desirable death'' concept rather than just on the level of an exchange of goods and manpower. But if a funeral industry service was what reflected the concept of the way of life and death, the aforementioned cases obviously showed that the concept of death did not come to exist a priori, coincidentally and ambiguously, and that it could also be generated through a causal relation with creativity in active commercial practices (Tanaka, 2006).

The "Futures Thinking Model"

The "Futures Thinking Model" was a model of strategic foresight based on understanding, anticipating, and shaping the future with applicability to organizations such as Funeral Industry (LugoSantiago, 2020). The key components of the framework included inputs, "foresight" work, outputs, and strategy/policy. It was an approach to strategic design that considered what was likely to change and what was likely to stay the same in the future as a means to be more reflective in strategic planning. It would reveal what could happen as a result of decisions, actions, and issues occurring in the present. The "Futures Thinking Model" created a vision for where to head as a means to be more

reflective in strategic planning. It included determining through secondary sources (newspaper clippings, journals, articles) regarding current events or situations about the funeral industry, determining what might happen in the future and what would likely happen based on secondary sources and interviews with respondents, and determining through interviews with the respondents their plans or actions that they must carry out to address the perceived events in the future (foresight).

Conceptual and Analytical Framework

Financial Performance of Funeral Industry

The evaluation of competitiveness and sustainability of financial performance of funeral industry showed that management accounting techniques played an important function in creating a sustainable competitive advantage for funeral industry (Wadesango et al., 2021). The contribution of sustainable development was largely dependent on the business' perceptions of the advantages of sustainability and competitive strategies and consequent practices. The relationship between competitive performance and financial performance had been heavily debated with mixed results measuring the possible mediators in the sustainability-financial performance relationship (Cantele and Zardini, 2018).

Financial performance as to liquidity ratios, leverage, efficiency, and profitability measured funeral business' overall financial health. Liquidity ratio measured a funeral business ability to pay debt obligations and its margin of safety through the calculation of metrics including the current ratio, quick ratio, and operating cash flow ratio. Leverage ratio measured the level of debt incurred by a funeral business against several other accounts in its balance sheet, income statement, or cash flow statement. Efficiency ratio measured a funeral business' ability to use its assets to generate income, and profitability ratio assessed a funeral business' ability to earn profits from its sales or operations.

Financial performance was a measurement of how well the funeral industry could use its assets from its primary mode of business and generate revenues. It was also a general measure of the industry's overall financial health and condition over a given period. Determining the Industry's performance using a set of financial ratios had been interesting and challenging for many researchers and practitioners. Identification of factors that could accurately determine the factors affecting a good financial performance was of great interest to any decision maker (Delen et al., 2013).

External Factor

The social, economic, and formal practices dimensions of sustainability positively affected competitive advantage mediated by the business' reputation, customer satisfaction, and organizational commitment. The competitive advantage to be a mediator positively contributed to financial performance (Cantele and Zardini, 2018).

In analyzing the external factors, Porter's Five Forces identified the competition, new entrants into the industry, supplier power, buyer power, and the threat of

substitute

products and services in the market. Also, the PESTLE was an analytical tool that identified how various factors may affect an organization and its competitive standing.

Porter's five forces framework was based on the perception and understanding that a business strategy should encounter the opportunities and threats in the business' external setting. A competitive strategy should rest on an understanding of industry framework and the way they change. Porter argued that the aim of the strategist was to recognize, understand, and handle a competitive business environment by directly looking at competitors, or to contemplate a broader perspective that competed against the industry (Porter, 1979). Arguably, technological advancements and different ways of strategic thinking such as shaping the future or futures thinking, engaging with customers, and creating long-term value using innovative ways may have shifted Porter's five forces thinking from competing in an existing competitive business environment to seeking opportunities in new innovative markets. However, one may wonder, if business were up to par for stepping out of their current competitive market to become a pioneer in a new market environment (Bruijl, 2018).

As to competitive advantage, the use of relevant, authentic studies would provide information in the end result of this study, such as the study "Growth Drivers in Selected Death Care Businesses in the Philippines, 2020". This study determined the growth drivers of death care businesses in the Philippines and formulated alternative strategic management considering that the growth in the death care industry was fueled by various factors such as external factors. External factors consisted of Political Factors which focused on how government policy and actions intervened in the economy and other factors that could affect a business. Political factors involved the relationship between business and the government. Economic Factors took into account the various aspects of the economy and how the outlook on each area could impact the business. Economic indicators were usually measured and reported by Central Banks and other Government Agencies. Social Factors were related to the cultural and demographic trends of society. Social norms and pressures were key to determining consumer behavior. Technological Factors were linked to innovation in the industry as well as innovation in the overall economy. Not being up to date with the latest trends of a particular industry could be extremely harmful to operations. Environmental Factors concerned the ecological impacts on business. As weather extremes became more common, businesses need to plan how to adapt to these changes. Legal Factors pertained to any legal forces that define what a business could or could not do. Political and legal factors could intersect when governmental bodies introduced legislature and policies that affected how businesses operated (Feys, 2015).

Challenges of Funeral Industry

The challenges included handling human remains which required significant start- up capital. It was an environmentally sensitive business that must adhere to stringent national environmental health guidelines (Maphela, 2021). Since Death and funeral practices were a constant, funeral industry must participate in a diverse range of online

practices related to Sorry Business, including notifications of deaths and funerals, offering condolences and extending support, and grieving and healing (Carlson, 2015).

Challenges on businesses included external factors related to financial crisis and downturn in the market (Hunter, 2012). PESTLE analysis was utilized for the identification of the political, economic, social, technological, legal and environmental factors that had positive or negative effect on the greatest environmental threats facing the globe today (Christodoulou, 2019).

Futures Thinking Model

Responding to the challenges, the "futures thinking" helped in the unprecedented global change, decreased difficulties in an environment of growing complexity, heightened uncertainty, and accelerated pace of change. It was essentially concerned with the future. The "futures thinking" model facilitated decision-making processes and outcomes that demonstrated sustainable thinking (Lederwasch, 2012).

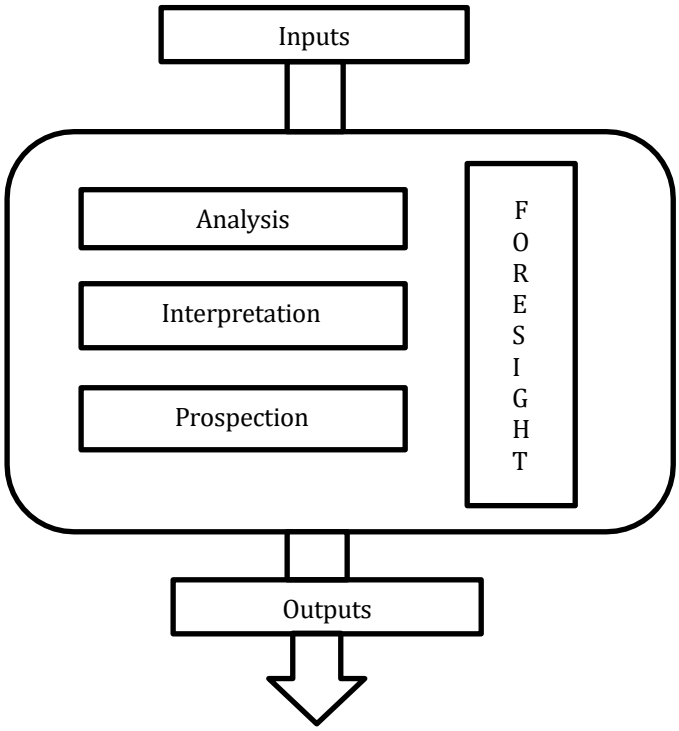


Figure 1. *Analytical Framework, Source: Inayatullah (2003)*

Using the Generic Foresight Process (GFP) Framework, the output of the study was a proposed contextualized "Futures Thinking Model". A generic foresight process framework recognized several distinct phases, from the initial gathering of information to the production of outputs intended as input into the more familiar activities of strategy development and strategic planning. The framework would be useful as a diagnostic tool

for examining how foresight work and strategy were undertaken, as well as a design aid for customized foresight projects and processes (Voros, 2003).

The Futures Thinking Model was crafted by adopting the required key elements from The Generic Foresight Process (GFP) Framework such as (1) Determining through secondary sources (newspaper clippings, journals, articles) regarding current events or situations about the funeral industry, (2) Determining what might happen in the future and what would likely happen based on secondary sources and interviews with respondents,
(3) Determining through interviews with the respondents the plans or actions that they must carry out to address the perceived events in the future (foresight), and (4) Finally, coming up with a futures thinking model that summarized and integrated all these data drawn from secondary sources and interviews.

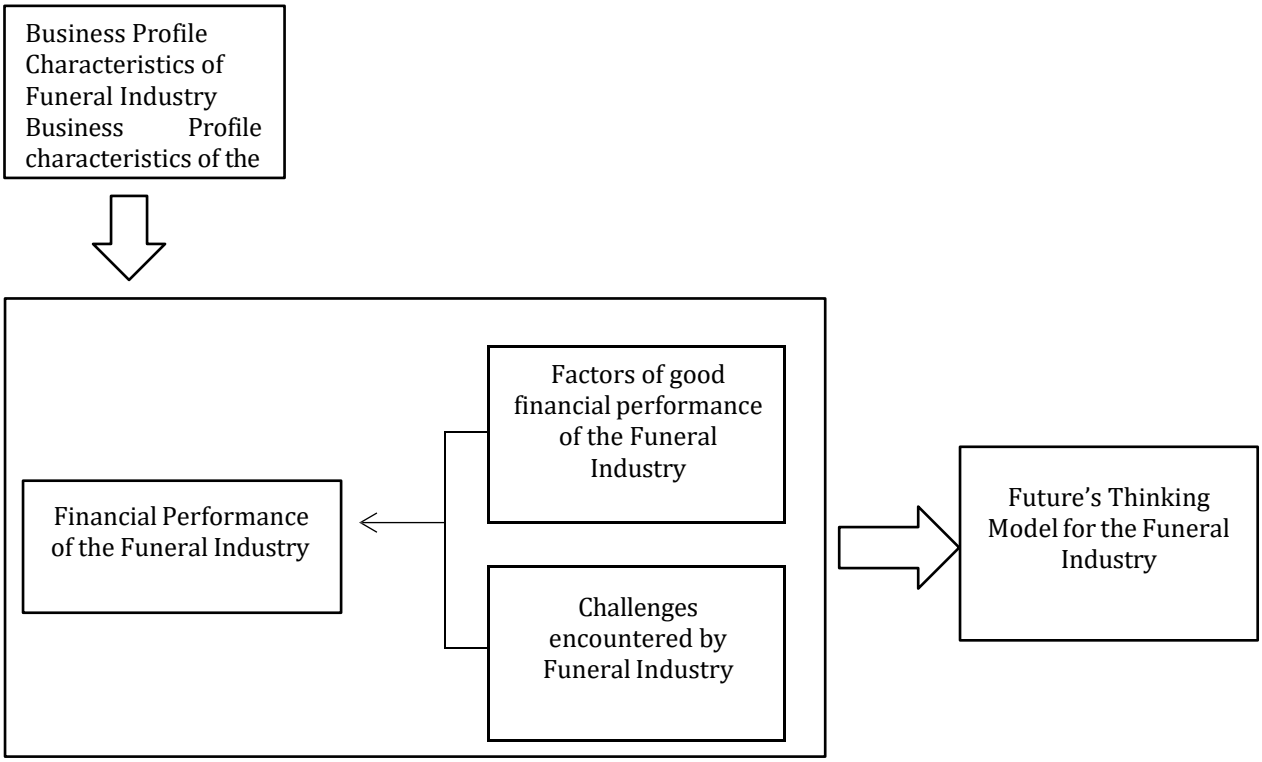


Figure 2. *Research Paradigm*

Reflected in the Research Paradigm was the profile characteristics of the funeral industry. Funeral industry was one of the oldest businesses in the market, considering it was usually a sole-proprietorship or family business. Business and its employees mutually coexisted and nurtured one another. Funeral business invested in and supported its employees as well as the local communities. This symbiotic relationship enabled the

funeral business and its owners and managers to work harmoniously. The funeral's capital was provided by the family who owned the business. They provided support systems as well (Sheth, 2020).

The funeral industry's financial performance was a subjective measure of how well the funeral industry can cope with the present situation including the use its assets from its primary mode of business and generate revenues. The key indicators drawn from the financial statements were liquidity which indicated the ability of the funeral business to meet its financial obligations when they come due; leverage ratio was a financial measurement that assessed the ability of the funeral business to meet its financial obligations. It was a measure of how much the funeral business used its equity and debt to finance its assets. Efficiency measured a funeral's ability to use its assets to generate income and measure the level of performance achieved against a standard. Profitability measured the income and expenses. Profitability was a situation in which a business generated a profit that relied heavily on the funeral services depending on their business plan, good business operation habits, connections with their clientele, satisfactory market, continuous improvement of management, and strategic and structured marketing tools that generated greater efficiency and income.

The growth in the funeral industry was fueled by external factors such as staying competitively to produce goods or services in a better or more affordable manner as compared to its rivals. The funeral industry being one of the oldest businesses in the market and considering individual funeral industries, may have established certain competitive advantage over the other rivals. The success of funeral industries was largely due to continued increasing demand at the rate of population growth. The Porter's Five Forces framework determined the competitive structure of a funeral industry and its profitability. The funeral business structure, and its relative position within the industry were the two basic drivers of industry's profitability. A PESTLE analysis was a tool used to gain a macro picture of a funeral industry environment. Considering that the funeral industry was in a market where there was competition, the creation and implementation of strategies were meant to survive (Hernandez, 2013).

The pandemic had challenged the funeral industry in unprecedented levels. Dealing with an increase in the number of deaths, having very strict guidelines had affected the industry's over-all operations. From its humble beginnings, the funeral industry had gained the recognition and excellence among their respective communities by providing recession-proof services thru test of time, and raised its level of competence in line with National standards of Funeral services.

To this end, the Futures Thinking Model for funeral industry was proposed.

Research Questions

This study sought to determine the financial performance of the Funeral Industry in Nueva Vizcaya as moderated by external factors towards competitive advantage. Specifically, it aimed to:

1. Describe the business profile characteristics of the Funeral Industry along the following:
    1.1. Type of Ownership
    1.2 Number of years in business
    1.3 Number of employees
    1.4 Capital at the end of each year
    1.5 Services Offered
    1.6 Marketing Platforms
    1.7 Linkages
2. Describe the Financial Performance of the Funeral Industry in the following key indicators:
    2.1 Liquidity
    2.2 Leverage
    2.3 Efficiency
    2.4 Profitability
3. Determine the factors of good financial performance of the Funeral Industry towards competitive advantage in terms of:
    3.1 The Porter's Five Forces
    3.2 The PESTLE
4. Determine the challenges encountered by the Funeral Industry along External factors.
5. Propose a “Futures Thinking Model” for the Funeral Industry in Nueva Vizcaya.

METHODOLOGY

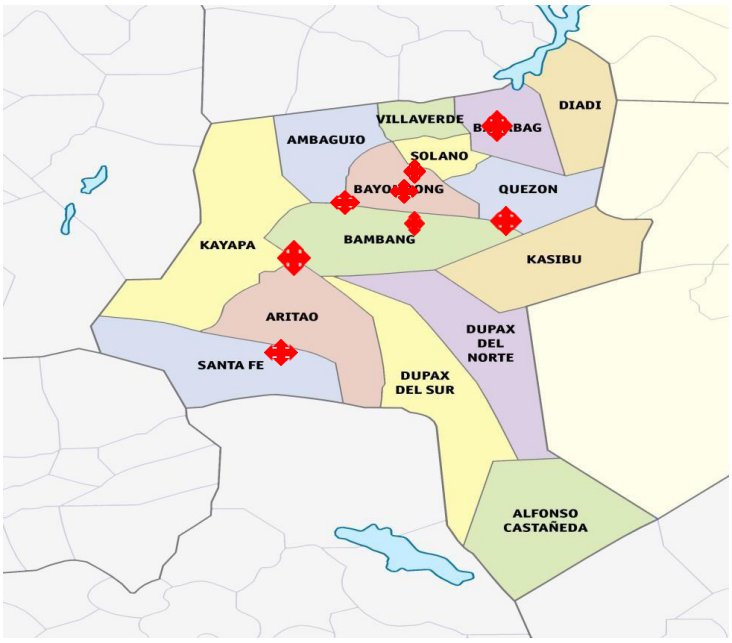
Research Design

This employed the quantitative-qualitative approach, particularly the descriptive design of research. The main mode of gathering data in this study was the conduct of interviews where the researcher directed questions upon the informants. Data gathered were corroborated by information gathered from document-scanning particularly from documents requested from the informants which were the financial statements of each funeral homes business involved in this study over the past five years. The quantitative design, particularly the descriptive type was used in describing the profile characteristics of the funeral industry.

The qualitative design gave a deeper understanding and comprehensive analysis of determining the factors of good financial performance of the funeral industry towards

competitive advantages. The researcher used Porter's Five Forces, formed by Michael E. Porter in Harvard Business School. For the external Factors, Porter's Five Forces was used to recognize and analyze the different forces in the competitive environment, suppliers' bargaining power, buyers' bargaining power, threat of new entrants, threat of substitution, and the rivalry among competing firms which constituted a certain industry that determined its competitive advantage. Also, the researcher used the PESTLE framework. PESTLE analysis was an important and widely used tool that helped show the big picture of a firm's external environment. PESTLE is an acronym for the political, economic, sociocultural, technological, environmental, and legal contexts in which the funeral industry operated. The qualitative design for deeper understanding and analysis was also used for the challenges encountered by the funeral industry.

Research Locale



Legend: : Location of the involved Funeral Businesses in the Study.

Figure 3. Map of the Province of Nueva Vizcaya

The study was conducted within the province of Nueva Vizcaya consisting of 15 municipalities. Among these 15, the researcher conducted her study in the towns of Solano, Bayombong, Bambang, Bagabag, Aritao and Quezon where the funeral entrepreneur-informants were located. There were two funeral businesses in Solano, two in Bayombong, one in Bambang, one in Bagabag, two in Aritao, one in Quezon and one in Villaverde. The funeral business' respondents in these particular towns were identified from the list taken from the provincial office of the Department of Trade and Industry (See Appendix I). There were funeral industries in other towns. However, due to the COVID situation, strict travel protocols were a limitation on the part of the researcher. Thus, funeral industries from the above-mentioned towns were considered since these towns

were the ones nearer to the capital town of Bayombong and commercial center town of Solano where they were considered to be at the most active economic activities.

Table 1. *Research Respondents*

Funeral	Number of respondents	Respondents
A	1	Manager/Owner
B	1	Employee
C	2	Employees
D	1	Employee
E	1	Employee
F	1	Employee
G	1	Employee
H	1	Manager

Purposive sampling was the method used in the identification of research informants. Apart from the two owners or managers of the identified funeral industry businesses, seven key employees upon the referral of the owners or managers were also included. The list from the provincial office of the Department of Trade and Industry was the basis in the identification of the necessary informants. The researcher provided an Informed Consent Form and filled by the informants. It served as the consent of his or her willingness to participate in the conduct of the study.

Research Instruments

In determining the business profile characteristics of the funeral industry, an interview guide was used. The interview guide was validated by the experts and certified to be compliant with the University Research Ethics Board (UREB).

The foremost research instrument utilized in this study was the financial statements over the last five years of the identified Funeral Industry. The Profitability Ratios were determined upon scrutiny on the financial statements. Thus, an analysis of the Five Year Comprehensive Financial Statement was requested, and an Interview guide was used as a complementary research instrument that triangulated the findings (See Appendix E).

In determining the factors affecting good financial performance of funeral industry towards competitive advantage, Porter's Five Forces framework was used as a strategic analytical tool to assess and evaluate the level of intensity of competition in the funeral industry. Also, the PESTLE analysis was used to analyze and monitor the macro- environmental (external marketing environment) factors that had an impact on the Funeral Industry.

In determining the challenges encountered by the funeral industry, the researcher directed questions upon the informants with the use of the interview guide.

In the contextualization of the Futures thinking model for the funeral industry in Nueva Vizcaya, the researcher also used the interview guide.

Data Gathering Procedure

In collecting data from the informants, the researcher sought their consent via a letter-request to conduct the study. The informants also were the ones who set the interview date and time. With the risk of COVID-19, the researcher strictly followed the mandated safety protocols of the municipalities where the business was situated. The wearing of face mask and maintaining physical distancing were maintained during a series of interviews. The researcher used an interview guide question in conducting face- to-face interview with the funeral services owners. A documentary analysis was also used in this study. In case of clarifications and additional queries, the researcher was allowed to call or text the informants for a follow-up interview.

Treatment of Data / Data Analyses

For the profile, qualitative analysis was used. After the interviews with the informants, the data gathered were transcribed and analyzed. The requested financial statements for five years were scanned, utilized, reviewed, and relevant figures therein were used in computing for the businesses' liquidity, leverage, efficiency, and profitability with the corresponding formula as presented below:

Table 2. Financial Performance Key Indicators

Liquidity	Current ratio= Current assets/Current liabilities Quick ratio= (Current Assets - Inventories - Prepaid Expenses) / Current Liabilities Cash ratio= (Cash + Marketable Securities) / Current Liabilities
Leverage	Debt-to-equity ratio= Total liabilities/ Total shareholders' equity Debt-to-asset ratio= Total debt/ Total assets
Efficiency	Asset turnover ratio= Net sales or revenue/average total assets
Profitability	Net Profit margin rate= (Total Revenue-Total Expenses)/Total Revenue Gross Profit rate= Gross profit/Net sales ROA=Net profit/Total average assets ROE= Net profit/ Shareholders' equity

A qualitative analysis was used to determine the factors of good financial performance of the funeral industry towards competitive advantage. The researcher analyzed data gathered and used the framework known as Porter's Five Forces analysis and PESTLE. Data gathered from the challenges encountered and Futures thinking model by the funeral industry were analyzed and transcribed.

RESULTS and DISCUSSION

Section 1. Business profile characteristics of the Funeral Industry

This section discusses the relevant business profile characteristics of the funeral businesses involved in this study. Particularly, these profile characteristics were the Type of Ownership, Number of Years in business, Number of employees, Capitalization, Services Offered, Marketing Platforms, and Linkages.

Table 3. *Profile Characteristics of the Funeral Industry in terms of Type of Ownership, Year established, Number of years in Business, and Number of employees*

Funeral	Type of Ownership	Year established	Number of Years in business	Number of employees
A	Single Proprietorship	1999	23 yrs.	5
B	Single Proprietorship	2006	16 yrs.	5
C	Single Proprietorship	1985	37 yrs.	5
D	Single Proprietorship	1976	46 yrs.	5
E	Single Proprietorship	2006	16 yrs.	5
F	Partnership	1945	77 yrs.	6
G	Single Proprietorship	2007	15 yrs.	3
H	Corporation	2007	13 yrs.	4

Among the eight Funeral businesses, there were six Single Proprietorship, one Partnership, and one Corporation type of ownership. Funerals A, C, and D were second generation proprietorship that were transferred after the death of the previous owners. Funerals B, E, and G were established by the current proprietors who learned the business through their experiences as past workers in Funeral homes. Funeral F was established as a single Proprietorship but after the death of the previous owner, the funeral business was transferred to his children and became a partnership among his children. Funeral H was founded in the 1970s, and the company claimed to cover about 95 percent of the market share in pre-need plans. It currently had the widest network of branches in the industry, with around 290 memorial chapels and around 300 Life Plan offices (www.stpeter.com).

The oldest from the funeral industry was established in 1945, and the recent was established in 2007. Four from the industry ranged from 13-20 years, and the other four ranged from 21-77 years in the business.

From among the respondents, two funeral businesses had at least three employees, and six employed at least five employees composed of a Licensed embalmer who was usually the owner, one or two assistants or helpers, and a driver.

Table 4. *Profile in Terms of Capitalization of the Funeral Industry*

Funeral Industry	Initial Capital (in thousand Pesos)	% of Change of Capital 2017 vs. Initial Capital	Ending Capital 2017 (in thousand Pesos)	% of Change in Capital 2018 vs. 2017	Ending Capital 2018 (in thousand Pesos)	% of Change of Capital 2019 vs. 2018	Ending Capital 2019 (in thousand Pesos)	% of Change of Capital 2020 vs. 2019	Ending Capital 2020 (in thousand Pesos)	% of Change of Capital 2021 vs. 2019	Ending Capital 2021 (in thousand Pesos)
A	800	719	6,552	3	6,766	4	7,026	8	7,575	10	8,354
B	1,200	252	4,226	3	4,333	5	4,549	17	5,313	7	5,698
C	100	2,387	2,486	39	3,451	18	4,074	16	4,725	15	5,414
D	30	10,101	3,060	15	3,531	3	3,624	3	3,749	0	3,732
E	1,000	132	2,324	27	2,951	7	3,155	2	3,208	-1	3,189
F	5	73,875	3,698	4	3,834	4	3,979	5	4,162	4	4,316
G	1,000	114	2,141	5	2,254	60	3,598	-16	3,021	17	3,548
H	2,000	97	3,940	11	4,386	11	4,874	11	5,412	11	6,006

The initial capitalization of the funeral businesses tremendously grew from the year of establishment up to the end of 2021 considering the number of years in business and factors like steady demand in the funeral services offered, good financial performance business management, and competitiveness. It could be inferred that the increase in the capitalization was due to the presence of strong linkages that could promote service efficiency, productivity, increase economic opportunity, technological and managerial capabilities, and market diversification in the funeral industry which eventually resulted to their profitability.

The Initial capitalization of the funeral businesses ranged from Php 5,000-Php 2,000,000 depending on the year the business was established. There was an increasing pattern of capitalization on the last five years because they were generating profit or income which meant that the generated income were rolled-over as additional working capital for the following years.

Table 5. *Profile in Terms of Services Offered by the Funeral Industries in terms of Primary Services, Secondary Services, Marketing Platforms and Linkages*

Funeral	Services (Primary)	Services (Secondary)	Marketing Platforms	Linkages
A	embalming to burial	Flowers and tombstone	Facebook Page, Word-of-mouth, Signage and Personal Selling	Suppliers of coffins, medicines, flowers, tombstone, printing press, and cemeteries
B		Flowers and tombstone		
C		Flowers and tombstone		
D		Flowers and tombstone		
E		Flowers		
F		Flowers and tombstone		
G		Flowers and tombstone		
H		Flowers		

The table presents the profile of the funeral Industry in terms of services, marketing platforms and linkages. It can be gleaned from the table that all funeral businesses in the province Nueva Vizcaya had a primary and standard service of embalming to burial that include removal of cadaver at its place of death, bringing the cadaver to the morgue for sanitation and embalming procedures, grooming, and sealing in a coffin, delivery to the place of burial whether at the home of the bereaved family or at the chapel of the service provider, processing of necessary permits, and funeral coach in time of interment.

Most of the funeral businesses provided secondary services that included flowers, flower arrangements and tombstone and others like video coverage, pictorials, provision of “Thank You” cards, and balloons were provided upon the request of the bereaved family with additional service charges exclusive of the funeral package, except for Funerals E and F.

Marketing Platforms

In terms of marketing platforms used, all funeral businesses used Facebook Page, word-of-mouth, signage and personal selling. They utilized marketing platforms because if the customer was satisfied, they would definitely recommend to their family and friends (Sari et al., 2018). However, most of the Funeral Industry’s FB page were not updated. Facebook business pages were excellent platforms to gather their customers, provide reviews, share opinions, voice concerns, and offer feedback. They could build a community on their Facebook page in a number of ways, including posting useful, relevant, and interesting links. Having strong marketing strategies could increase revenue because these platforms built customer awareness and opportunities for feedbacking for a better service. The Word-of-mouth essentially was a free advertising tool triggered by customer experiences. It is about the customers’ sharing of their thoughts about the funeral services thereby indirectly encouraging more sales and recommendations for the funeral industry like a ripple effect. Funeral industry signage was used as a versatile marketing tool to boost their brand value, draw new customers, and increase revenue/profit. Personal selling was an important marketing tool for the funeral industry that sold complex or high-value services to customers. Their respective employees dealt

with individual customers who inquired face-to-face or thru phone. Samples of their marketing ads included “Nawa’y Bawat Pamilya May ST.PETER Life Plan”, “The Largest Servicing Mortuary in Cagayan Valley”, and “The First Funeral Home in Nueva Vizcaya”.

Funeral industries competed through marketing such as competitiveness and building a good reputation as being reliable (Halpenny, 2013).

Linkages

In terms of linkages, all funeral businesses had existing linkages that did not require MOA or MOU with hospitals, the Philippine National Police (PNP), and the Municipal Disaster Risk Reduction and Management Office (MDRRMO). They also had linkages with insurance companies but were not updated. All funeral businesses mentioned, except for Funeral C which was identified as accredited, that they were authorized to cater to COVID-positive cadavers for the Municipality of Solano, and Funeral D for the Municipality of Bayombong. All the funeral Industry key informants shared that they had strong and harmonious working ties with their respective suppliers of coffin, medicines, flower shops, tombstone suppliers, and printing services providers. A vital aspect of building and maintaining a successful funeral industry was cultivating strong connections with their respective local communities because being present and active in the community built trust, business recognition, and that gave the funeral industry purpose and credibility.

Literature on peacebuilding emphasized the need for partnership and linkages at all levels of business for sustainability. Thus, “Networking” was an important factor for the success of entrepreneurs and their businesses (Yoosuf and Premarante, 2017).

Section 2. Financial Performance of the Funeral Industry in the following key indicators: Liquidity, Leverage, Efficiency and Profitability

This section discusses the financial performance of the funeral industry and their general well-being. These are snapshot of their financial health and provide insight into the future, whether its operations and profits are on track towards growth and competitiveness.

2.1 LIQUIDITY

Liquidity ratios per Funeral

Liquidity ratios measured a business’ ability to pay debt obligations and its margin of safety through the calculation of metrics including the current ratio, quick ratio, and operating cash flow ratio. An industry’s standard liquidity ratio higher than 1 was a “good” liquidity ratio which means that the business is worthy of investment. Results showed that the funeral businesses had increasing liquidity ratios. These ratios showed the relationship of the business’ current assets to its current liabilities (Aduana, 2015). Liabilities were classified as short-term or current obligations when they were expected

to be settled within 12 months after the date of the statement of financial position. The factors that contributed to the liquidity of funeral industry were the number of years of good financial performance and their ability to raise cash when needed. There were two major determinants of a funeral industry's liquidity position. The first was its ability to convert assets to cash to pay its current liabilities (short-term liquidity). The second was its debt capacity. Current liabilities, on the other hand, were obligations due within a year (Aduana, 2015). It was important to keep a reasonable ratio of current assets to current liabilities to ensure that short-term obligations can be paid on time, opportunities for volume expansion can be seized, and unforeseen circumstances could be handled easily. If a funeral business had a current ratio of more than one, then it was a good indicator that it could cover its current liabilities on time. Outside creditors would consider this a positive data to finance this company whenever a need of loan arises.

Table 6 shows the current ratio of the respondent-funeral industries:

Current Ratio

Table 6. *Current Ratio of the Funeral Industry*

CURRENT RATIO					
RESPONDENTS	2017	2018	2019	2020	2021
A	2.05	2.85	4.24	8.60	23.99
B	2.53	2.14	1.91	2.73	4.00
C	-	2.40	5.34	10.37	27.84
D	-	-	-	-	-
E	1.73	5.15	10.73	21.54	-
F	-	-	3.66	8.02	-
G	-	1.78	4.30	10.20	29.93
H	0.54	1.12	1.97	3.79	9.53

Funeral A

As shown in the table, a closer look at the funeral A's current ratio per year revealed that there was a significant increase in the company's current ratio for the years 2020 and 2021. In 2020, the current ratio doubled from 4.24 in 2019 to 8.60. For 2021, on the other hand, the current ratio nearly tripled from 8.60 in 2020 to 23.99. The funeral was very liquid thus, the decreasing total current liability per year resulted to Funeral A's increasing current ratio per year. Funeral A's financial statements indicated that there was a consistent increase in the current ratio per year from 2.05 in 2017 to 23.99 in 2021. This

showed that Funeral A had maintained more than sufficient current assets every year to meet its currently maturing obligations. However, one may surmise that Funeral A was not efficiently using its current assets or was not utilizing the benefits of short-term financing due to idle cash.

Funeral B

The same table also shows that Funeral B, for the past five years, had remained above the general rule of thumb of 2:1. While the business' current ratio experienced a slight dip in 2019 with a current ratio of 1.91 for that year, the current ratio was able to bounce back to 2.73 in 2020. Overall, the funeral's current ratio was stable as it was able to maintain sufficient current assets to meet its current liabilities. The current assets which were inventories were easily converted into cash in terms of sales.

Funeral C

In like manner, Funeral C's current ratios per year would reveal that the current ratio doubled every year. Generally, having a cash ratio above 1 was recommended in case of unlikely event that the other non-cash current assets proved difficult to liquidate. The consistent increase per year in the funeral's current ratio may be the result of two factors: (a) the consistent increase in the company's net income per year thereby increasing assets in general; and (b) the consistent decreasing balance of the business' current liabilities per year.

Funeral D

The data gathered for Funeral D showed that all the cash realized from operations and all the merchandise inventory of the company were available as Funeral D's working capital. As such was the case, the business' current ratios could not be computed because the company did not have any reported liabilities for the past five years. Having zero liabilities did not necessarily mean a good thing as Funeral D may be sacrificing the potential utilization of resources that was debt-generated. Furthermore, the tax shield benefit of interest expense was forgone.

Funeral E

Similarly, the table also shows that Funeral E's current ratio increased dramatically per year with 1.73 for 2017 as the lowest and 21.54 for 2020 as the highest. Moreover, the current ratio for 2021 could not be computed because the company did not have any current liability for this period. The consistent and significant increase in the current ratios per year was consistent with the significant increase in the cash balance per year coupled with a decrease in the Accounts Payable balance reported per year. Worth noting was the fact that the current ratio increased in 2020 to 21.54 from 10.73 in 2019 despite the business experiencing a significant decline in its net income for 2020 which also resulted to a slight decrease in its cash balance for 2020.

Funeral F

An analysis of Funeral F's financial statements showed that it was only in the years 2019 and 2020 that the business reported a liability. It indicated that, for the years 2017, 2018, and 2021, the company's current ratio could not be computed because the company did not have any reported liability for those periods. However, for the years 2019 and 2020, the company's current ratio was 3.66 and 8.02, respectively.

Funeral G

For the past five years, the current ratios of Funeral G were 1.78 in 2018 as the lowest and 29.93 in 2021 as the highest. The table also showed that the business' current ratio for the first three years was below the general rule of thumb of 2:1.

The significant increase in the current ratio for the years 2020 and 2021 could be explained by the significant increase in the business' total cash for the years mentioned owing to the increase in net income for the same period. Another reason why the funeral's current ratio experienced a steady increase in the past five years was the fact that the funeral's current liabilities, specifically accounts payable, were decreasing per year.

Funeral H

Similarly, Funeral H experienced a significant increase in the current ratio for the years 2020 and 2021 which could be explained by the significant increase in the business' total cash for the years mentioned owing to the increase in net income for the same period. Another reason why the funeral's current ratio had a steady increase in the past five years was the fact that the funeral's current liabilities, specifically accounts payable, were decreasing per year.

Cash Ratio

It can be surmised that the similarities in the increasing trend of the current and cash ratios per year could be due to the fact that the business' current assets consisted mainly of cash and inventories. In addition, the funeral industry did not experience significant changes in the inventory balance per year. Table 7 shows the cash ratio of each respondent-funeral industry.

Table 7. *Cash Ratio of the Funeral Industry*

CASH RATIO					
RESPONDENTS	2017	2018	2019	2020	2021
A	0.38	0.51	0.74	2.73	10.85
B	0.15	0.25	0.51	1.32	1.88
C	-	1.67	4.26	8.55	23.76
D	-	-	-	-	-
E	0.43	3.21	7.47	14.25	-
F	-	-	1.91	4.08	-
G	-	0.61	2.57	7.28	23.40
H	0.08	0.46	0.99	2.15	5.86

As what had been observed in other funeral industry-respondents of this study, the similarities in the increasing trend of the current and cash ratios per year could be explained by the fact that the company's current assets consisted mainly of cash and inventories and that the company did not experience significant increase or decrease in its inventory balance per year.

Funeral A

As to Funeral A's cash ratio, the same increasing trend per year for the current ratio for the past five years could be observed with the company experiencing significant increases for the years 2020 and 2021. In 2020, the cash ratio jumped from 0.74 in 2019 to 2.73. For 2021, on the other hand, the quick ratio moved from 2.73 in 2020 to 10.85.

As shown in the table, Funeral A, since in the computation of cash ratio, inventory balance which remained relatively stable was simply eliminated, the resulting cash ratio per period necessarily would mirror the business' current ratio which was significantly influenced by the cash balance per year.

Funeral B

As to Funeral B's cash ratio, an increasing trend per year for the past five years could be observed too, with the company experiencing significant increases for the years 2019, 2020, and 2021. The cash ratios for these periods were 0.51, 1.32, and 1.88. It was worthy to note at this point that, for the first three years (2017 – 2019), the business' cash ratios were below 1 despite having current ratios above 2:1 for the same periods.

Generally, having a cash ratio above 1 was recommended in case of unlikely event that the other non-cash current assets proved difficult to liquidate. For Funeral B, this meant that for the years mentioned, most of the business' current assets were tied up to its merchandise inventory. It was only in the years 2019 and 2020 that the business was able to have a cash ratio of at least 1.

Funeral C

The table also showed that Funeral C's cash ratio followed the same increasing trend as that of the current ratios per year. In other words, the business' cash ratio also doubled per year, or even higher. The increasing trend of the cash ratios per year could be explained by the fact that the business' current assets consisted mainly of cash and inventories and that the business did not experience a significant increase or decrease in its inventory balance per year.

Funeral D

Just like the business' current ratios, the cash ratios could not be computed because the company did not have any reported liabilities for the past five years. Again, having zero liabilities was not necessarily a good thing because it may mean that Funeral D would be sacrificing the potential utilization of resources that were debt-generated. Furthermore, the tax shield benefit of interest expense was forgone. Moreover, it could mean that all the cash realized from operations and all the merchandise inventory of the company were available as Funeral D's working capital.

Funeral E

The sudden spike in current and cash ratio of Funeral E suggested low debt utilization as with the case of Funeral A. Funeral E's cash ratio per period mirrored the business' increasing current ratio per year with 0.43 in 2017 as the lowest and 14.25 in 2020 as the highest.

A significant increase per year in the business' cash ratio was evident. The trend was a result of the significant increase in the business' cash balance per year coupled with a uniform reduction in the balance of the business' current liabilities per year.

Funeral F

As to Funeral F, the cash ratios for the years 2017, 2018, and 2021 could not be computed because the business did not have any reported liability for those periods.

For the years 2019 and 2020, the business' cash ratios were 1.91 and 4.08, respectively. It could be observed that the business' cash ratios for 2019 and 2020 were almost half of its current ratio. This meant that the company's total current assets were distributed almost evenly to cash and merchandise inventory.

Funeral G

The movement in Funeral G's cash ratio per period was largely influenced by the significant increase in the cash balance per year considering that the business' current assets consisted mainly of cash and inventories. The increasing cash ratio per year of Funeral G was parallel to the business' increasing current ratio per year. The cash ratio was at its lowest at 0.61 in 2018 and at its highest at 23.40 in 2021. The movement in Funeral G's cash ratio per period was largely influenced by the significant increase in the cash balance per year considering that the company's current assets which consisted mainly of cash and inventories did not experience a significant increase or decrease in its inventory balance per year.

Funeral H

The cash ratio per year of Funeral H was parallel to the business' increasing current ratio per year. For the first three years, the cash ratio fell below 1 with 0.08 for 2017, 0.46 for 2018, and 0.99 for 2019. This meant that for those years, the business did not have enough cash to settle its liabilities assuming they fell due. For 2020 and 2021, however, the business was able to increase its cash ratio to 2.15 and 5.86, respectively which indicated that enough cash was available to settle currently maturing obligations. However, this also meant that for those periods, a bulk of the business' current assets were tied up to its inventory.

Table 8. *Summary Table of Liquidity Ratios of the Funeral Industry*

	2017		2018		2019		2020		2021	
Funeral	Current Ratio	Cash Ratio	Current Ratio	Cash Ratio	Current Ratio	Cash Ratio	Current Ratio	Cash Ratio	Current Ratio	Cash Ratio
A	2.05	0.38	2.85	0.51	4.24	0.74	8.60	2.73	23.99	10.85
B	2.53	0.15	2.14	0.25	1.91	0.51	2.73	1.32	4.00	1.88
C	-	-	2.40	1.67	5.34	4.26	10.37	8.55	27.84	23.76
D	-	-	-	-	-	-	-	-	-	-
E	1.73	0.43	5.15	3.21	10.73	7.47	21.54	14.25	-	-
F	-	-	-	-	3.66	1.91	8.02	4.08	-	-
G	-	-	1.78	0.61	4.30	2.57	10.20	7.28	29.93	23.40
H	0.54	0.08	1.12	0.46	1.97	0.99	3.79	2.15	9.53	5.86

The funeral industry used cash basis to record income and expenses as received and incurred, respectively. Revenues were recognized only upon collection while payables were recorded upon payment. This was the reason why the funeral businesses did not have current liability. Cash basis accounting was advantageous to them because

it was simpler and less expensive than accrual accounting. Also, it gave an accurate picture of how much cash was on hand. They had sufficient and stable cash flow, as no current liabilities were recorded. A non-current liability referred to the financial obligations in a funeral industry's balance sheet that were not expected to be paid within one year. The appropriate magnitude for this ratio varied widely among industries, companies, and the specific circumstances of individual companies. However, a popular rule of thumb was that a company's current ratio should be at least 2 is to 1.

There were two main liquidity ratios used. These were the current ratio and cash ratio. The cash ratio represented the extent to which the funeral industry can pay its short- term obligations with its most liquid assets. In other words, it measured the proportion of a business' current liabilities that it could meet with cash and assets that could be readily converted to cash. All the funeral industries were liquid and could pay their current obligations.

Furthermore, the cash ratio was a liquidity measure that showed a funeral industry's ability to cover its short-term obligations using only cash and cash equivalents. Funeral D had zero Cash ratio because it had no short-term obligations. Funeral E and F had zero Cash ratio for the year 2021 because they had fully-paid all their short-term obligations. All funeral industries in the last five years measured greater than one cash ratio which was considered a high cash ratio. It indicated that a funeral industry had more than enough cash to cover the short-term debts on its balance sheet. For the two accredited funeral businesses which catered to COVID-positive cadavers, they had an increase of their current and cash ratios. While from an owner's perspective this might seem favorable, the current ratio should not be too high. As mentioned earlier, having a too high liquidity ratios might mean that the resources of the funerals were being sidelined when the cash on hand could be used to expand operations or improve equipment.

Overall, the similarities in the increasing trend of the current and cash ratios per year could be explained by the fact that the business' current assets consisted mainly of cash and inventories and that the businesses did not experience significant increase or decrease in its inventory balance per year. It is then safe to say that the funeral industry was very liquid as shown by their high current and cash ratios.

The consistent increase per year in the funeral's current ratio may be the result of two factors: (a) the consistent increase in the company's net income per year thereby increasing assets in general; and (b) the consistent decreasing balance of the company's current liabilities per year.

The similarities in the increasing trend of the current and cash ratios per year could be explained by the fact that the business' current assets consisted mainly of cash and inventories and that the company did not experience significant increase or decrease in its inventory balance per year while the cash balance consistently increased per year. Given the fact that liabilities continued to be lowered every year, it was suggested that cash was either retained by the business or used for minimal operating expenditures.

2.1.2 Leverage Ratios of Funeral Industry Debt to Equity Ratio

Table 9. *Debt to Equity Ratio of the Funeral Industry*

DEBT TO EQUITY RATIO					
RESPONDENTS	2017	2018	2019	2020	2021
A	0.07	0.06	0.04	0.03	0.01
B	0.05	0.07	0.09	0.09	0.07
C	-	0.12	0.07	0.04	0.02
D	-	-	-	-	-
E	0.08	0.05	0.03	0.02	-
F	-	-	0.07	0.03	-
G	-	0.08	0.05	0.03	0.01
H	0.20	0.15	0.11	0.07	0.03

The Debt-to-Equity ratio indicated the proportion of debt in relation to resources provided by the owner. All the funeral industries had less than .02 which meant that they did not need additional financing from outside creditors. The ratios were generally considered good.

Debt to Asset Ratio

Table 10. *Debt to Asset Ratio of the Funeral Industry*

DEBT TO ASSETS RATIO					
RESPONDENTS	2017	2018	2019	2020	2021
A	0.08	0.06	0.04	0.03	0.01
B	0.05	0.07	0.10	0.10	0.07
C	-	0.12	0.08	0.04	0.02
D	-	-	-	-	-
E	0.09	0.05	0.03	0.01	-
F	-	-	0.07	0.03	-
G	-	0.09	0.06	0.03	0.01
H	0.25	0.15	0.11	0.07	0.03

The table shows that all funeral businesses had very low debt-to-assets ratios which indicated that the industry exceeded their total amount of debts. Therefore, the industries enjoyed more financial flexibility which could be a factor to expand more aggressively since they did not need to spend a lot of money paying down debts. Also, the funeral industry such as Funeral H had a 'strong' leverage on market. On the other hand, if the debt-to-equity and debt-to-assets ratio were seen as too low, it might be a sign that the funerals relied too much on equity to finance the business positioning (Borres, 2020).

Table 11. *Summary Table of Leverage Ratios of the Funeral Industry*

Fun	2017		2018		2019		2020		2021	
	DER	DAR	DER	DAR	DER	DAR	DER	DAR	DER	DAR
A	0.07	0.08	0.06	0.06	0.04	0.04	0.03	0.03	0.01	0.01
B	0.05	0.05	0.07	0.07	0.09	0.10	0.09	0.10	0.07	0.07
C	-	-	0.12	0.12	0.07	0.08	0.04	0.04	0.02	0.02
D	-	-	-	-	-	-	-	-	-	-
E	0.08	0.09	0.05	0.05	0.03	0.03	0.02	0.01	-	-
F	-	-	-	-	0.07	0.07	0.03	0.03	-	-
G	-	-	0.08	0.09	0.05	0.06	0.03	0.03	0.01	0.01
H	0.20	0.25	0.15	0.15	0.11	0.11	0.07	0.07	0.03	0.03

Legend: Fun- Funeral, DER- Debt to Equity Ratio, DAR- Debt to Assets ratio

The leverage ratios were financial measurements that assessed the ability of a funeral business to meet its financial obligations. It may also be used to measure a funeral's mix of operating expenses to get an idea of how changes in output would affect operating income (Aduana, 2015). The Leverage ratios used was Debt-to-Equity and Debt-to-Assets.

As shown table 11, there was a decrease of liabilities which meant that all funeral businesses had the capability to pay their short and long-term liabilities. It should be noted that while becoming more financially flexible due to having low-to-zero liabilities might be seen as a positive sign, each funeral business must assess its capital structures to determine the optimal mix of its sources of capital. It was undeniable that during times of uncertainties such as the COVID-19 pandemic, financial flexibility was highly valued. Each funeral business must still ensure that its assets were utilized and not remain idle. The forgone benefits of proper resource utilization might outweigh the cost of debt.

2.1.3 Efficiency Ratio

The efficiency ratios of the funeral businesses measured how well the funeral industries were managing their assets.

Asset Turnover Ratio

Table 12. *Asset Turnover Ratio of the Funeral Industry*

RESPONDENTS	ASSET TURNOVER RATIO				
	2017	2018	2019	2020	2021
A	0.40	0.49	0.52	0.54	0.55
B	0.55	0.61	0.63	0.59	0.56
C	0.41	0.41	0.39	0.37	0.36
D	0.71	0.77	0.64	0.72	0.68
E	0.41	0.44	0.41	0.23	0.19
F	0.51	0.54	0.55	0.39	0.35
G	0.44	0.46	0.45	0.46	0.48
H	0.43	0.47	0.50	0.53	0.56

Table 12 shows whether the funeral industries had enough capital efficiently working by comparing their assets to sales. The asset turnover ratio was generally used to determine the efficiency of the business in using its resources/assets to generate sales.

As shown in Table 12, Funerals A and H consistently improved their efficiency in generating revenue for a period of five years although the other funerals had all shown assets turnover ranging from 0.19:1 to 0.68:1 particularly in 2021.The results of the Asset Turnover ratio was considered as a 'good' total turnover asset for the funeral industry as the total assets were able to produce enough revenue at the end of the year. However, due to the negative impact of the pandemic, Funerals E and F declined in their sales which also caused the decline of their asset turnover ratio.

If, compared to the entire industry, the funeral businesses had low asset turnover ratio, it might be an indicator that the assets were not utilized efficiently to generate sales. It might also be due to the utilization of cash to expand the operations or improve existing long-term assets that could improve operations.

2.1.4 Profitability

Ratios Net Profit

Margin Rate

The Net Profit Margin Rate measured profitability of the funeral business and results of operations as a whole. The higher the better. The ratio represented the amount earned by the owners for each peso of sales.

Table 13. *Net Profit Margin Rate of the Funeral Industry*

NET PROFIT MARGIN RATE					
RESPONDENTS	2017	2018	2019	2020	2021
A	0.18	0.21	0.20	0.26	0.29
B	0.09	0.12	0.16	0.16	0.12
C	0.27	0.31	0.36	0.40	0.43
D	0.16	0.18	0.13	0.14	0.10
E	0.29	0.40	0.40	0.20	0.05
F	0.20	0.16	0.16	0.05	0.14
G	0.09	0.15	0.21	0.27	0.33
H	0.11	0.10	0.11	0.11	0.12

As can be gleaned from Table 13, the funeral industry was a profitable business. The net profit rate ranged from 5% to 43%. Despite the pandemic wherein most funeral services were not availed, the linkage between the funeral industry, health care

institutions, and the government proved to be beneficial to the funeral industry, as revealed by the respondents during the interviews conducted with them.

Gross Profit Rate

The Gross Profit Margin Rate measured the reasonability of the price of the services of each funeral. Generally, the higher GPR, the better. But too high might mean the services or products were overpriced in order to accommodate their operating expenses.

Table 14. *Gross Profit Rate of the Funeral Industry*

GROSS PROFIT RATE					
RESPONDENTS	**2017**	**2018**	**2019**	**2020**	**2021**
A	39.89	40.81	39.37	43.06	45.84
B	28.62	28.86	31.23	31.88	27.15
C	47.23	51.12	55.60	59.23	62.13
D	36.46	35.98	32.58	31.74	29.02
E	49.79	58.26	58.34	52.61	49.81
F	38.96	35.22	33.61	30.27	41.64
G	30.36	34.28	39.04	44.09	48.37
H	30.17	28.78	28.94	29.09	29.25

Based on table 14, the GPR of the funeral industry ranged from 28.62 to 62.13 which implies that the funeral industry is a very lucrative business despite its morbid nature.

Return on Assets Ratio

Return on Assets measured the amount earned by the owners for each peso of asset of the funeral business. Generally, the higher, the better. Too low ROA might be due to inefficient utilization of assets or might be an indicator that some assets needed replacing.

Table 15. *Return on Assets Ratio of the Funeral Industry*

RETURN ON ASSETS RATIO					
RESPONDENTS	**2017**	**2018**	**2019**	**2020**	**2021**
A	0.07	0.10	0.10	0.13	0.15
B	0.05	0.07	0.09	0.09	0.07
C	0.11	0.12	0.13	0.14	0.15
D	0.12	0.13	0.08	0.10	0.07
E	0.12	0.16	0.15	0.05	0.01
F	0.10	0.09	0.08	0.02	0.05
G	0.04	0.06	0.09	0.12	0.15
H	0.05	0.05	0.05	0.06	0.06

The funeral industry registered a return on assets ratio ranging from 0.02 for F in 2020 to 0.16 for E in 2018. Funerals A, C, and G had consistently increased in their ROA while all the rest experienced an erratic trend in this said ratio.

Return on Equity

Return on Equity measured the amount earned by the owners for each peso of their invested value.

Table 16. *Return on Equity Ratio of the Funeral Industry*

RETURN ON EQUITY RATIOS					
RESPONDENTS	**2017**	**2018**	**2019**	**2020**	**2021**
A	0.08	0.11	0.11	0.14	0.15
B	0.05	0.07	0.10	0.10	0.07
C	0.11	0.13	0.14	0.14	0.15
D	0.12	0.13	0.08	0.10	0.07
E	0.13	0.17	0.16	0.05	0.01
F	0.10	0.09	0.09	0.02	0.05
G	0.04	0.07	0.09	0.12	0.15
H	0.06	0.06	0.06	0.06	0.07

It was observed that the ROE of the funeral industry was relatively low despite the fact that almost all of them were equity financed due to low liabilities.

Summary of Profitability Measures

Overall, it can be stated that there was a good Profit Margin ratio. It was desirable since it meant the funeral industry generated more profits from its sales. The Gross Profit Rates were healthy which meant that the funeral industry did well in managing its cost of sales. It also showed that the business had more to cover for operating, financing, and other costs.

Table 17. *Summary Table of Profitability Ratios*

	2017				2018				2019				2020				2021			
Fun	NPMR	GPR	ROA	ROE	NPMR	GPR	ROA	ROE	NPMR	GPR	ROA	ROE	NPMR	GPR	ROA	ROE	NPMR	GPR	ROA	ROE
A	0.18	39.89	0.07	0.08	0.21	40.81	0.10	0.11	0.20	39.37	0.10	0.11	0.26	43.06	0.13	0.14	0.29	45.84	0.15	0.15
B	0.09	28.62	0.05	0.05	0.12	28.86	0.07	0.07	0.16	31.23	0.09	0.10	0.16	31.88	0.09	0.10	0.12	27.15	0.07	0.07
C	0.27	47.23	0.11	0.11	0.31	51.12	0.12	0.13	0.36	55.60	0.13	0.14	0.40	59.23	0.14	0.14	0.43	62.13	0.15	0.15
D	0.16	36.46	0.12	0.12	0.18	35.98	0.13	0.13	0.13	32.58	0.08	0.08	0.14	31.74	0.10	0.10	0.10	29.02	0.07	0.07
E	0.29	49.79	0.12	0.13	0.40	58.26	0.16	0.17	0.40	58.34	0.15	0.16	0.20	52.61	0.05	0.05	0.05	49.81	0.01	0.01
F	0.20	38.96	0.10	0.10	0.16	35.22	0.09	0.09	0.16	33.61	0.08	0.09	0.05	30.27	0.02	0.02	0.14	41.64	0.05	0.05
G	0.09	30.36	0.04	0.04	0.15	34.28	0.06	0.07	0.21	39.04	0.09	0.09	0.27	44.09	0.12	0.12	0.33	48.37	0.15	0.15
H	0.11	30.17	0.05	0.06	0.10	28.78	0.05	0.06	0.11	28.94	0.05	0.06	0.11	29.09	0.06	0.06	0.12	29.25	0.06	0.07

Legend: Fun- Funeral, NPMR- Net Profit Margin Rate, GPR- Gross Profit Rate, ROA- Retrun on Assets, ROE- Return on Equity

The Return on Assets (ROA) results indicated that the funeral industry was able to maximize the use of its assets for getting more profits. The Return on Equity (ROE) result indicated that the funeral industry was more effective at generating profit from its existing assets. Likewise, the business which increased in its ROE over time was likely getting more efficient.

Profitability ratios were ratios that reflected the combined effects of liquidity and management in handling the assets and liabilities on the operating results of the funeral business. The ratios showed the effectiveness of business operations. (Aduana, 2015).

As an indicator of efficiency, there must be profit. Profit was a financial gain. It was the earnings from sales or revenue after deduction of all costs including interest payment on debt and tax (Bashar and Islam, 2014). Therefore, a high profit was an indication that a business was efficiently and effectively utilizing its funds (Aparna, 2015). Due to market liberalization, a business' ability to increase its profit, to survive and be competitive was more of an issue nowadays (Yazdanfar, 2013). There was a statistically significant positive relationship between profitability, liquidity, and firm size (Prempeh et al., 2018).

As shown in the Table 17, Funeral B, D, and E declined because Funeral B and E were non-accredited funeral industry to cater to COVID-positive cadavers. Funeral D's decline was due to the transition of new management because of the death of the previous owner. Other factors included degree of competition, strength of demand, the

state of the local economy, relative costs, and economies of scale. Though there was a minimal decrease of profitability, the funeral industry still had healthy profitability growth.

Section 3. Factors Affecting Good Financial Performance of the Funeral Industry towards Competitive Advantage

This section discusses the factors affecting financial performance of the funeral businesses towards competitive advantage, including the assessment of the external environment using the Porter's Five Forces and the PESTLE, which stands for Political, Economic, Social, and Technological, Legal, and environmental factors.

3.1 External Factors using Porter's Five Forces for Analyzing the Business' Competitive Advantage

A. Bargaining Power of the Consumers

Table 18. *Range of Package Price*

Funeral Industry	Standard Package Price	COVID-positive Package
A	25,000 to 600,000	N/A
B	20,000-250,000	N/A
C	20,000-500,000	25,000
D	35,000-500,000	25,000
E	26,000-150,000	N/A
F	18,000-150,000	N/A
G	15,000-150,000	N/A

The bargaining power of consumers included free-will to choose from the different standard package price offered by the funeral businesses. For funeral industry customers, one wanted to avail the funeral service only when the funeral would give discount. Otherwise, a customer may transfer or switch to other funeral with lower price package. All the respondents shared that "maghahanap sila ng mura na package na abot ng budget nila at laging nasusunod gusto ng customers, kumbaga, customers are always right, if may gusto sila idagdag sa package like for example, mga pamahiin sa kabaong (interior ng kabaong), napapag-usapan naman lahat. Kung may gusto sila ipadagadag at kaya naman ibigay ng libre, why not? Pero kung hindi naman kaya, napapag-usapan naman" (the customer's choice will always prevail because customers are always right). Based on the result of interview with the owner and manager, the funeral businesses within the province tended to lower their prices, therefore, they were price sensitive in order to catch more customers. The bargaining power of consumers was very dynamic and also depended on the flexibility of the bargaining approach. Individual personal finances were affected by expenditures (Jack et.al. 2019).

All funeral businesses only catered to an average of two customers a week. Customers came within their respective municipalities. Others were recommended by

their contact key persons from the hospitals, the Philippine National Police (PNP), and from the Municipal Disaster Risk Reduction and Management Office (MDRRMO). The customers were free to choose a package they were able and comfortable of paying and bargained in case of financial difficulties. Funeral H did not offer bargain because it was a pre-need company. Pre-need memorial plans were permanent life insurance covering the expense of funeral care and burial, therefore, it had fixed costs and charges and had guaranteed price, even during inflation. It did not require to make up the difference. Also, there was no cost incurred when the customer changed buying preferences except for upgrading the package and incurring add-ons. If ever customers had difficulty in their finances, they would not shift to other competitors, but instead bargained or haggled and asked for extension of payments. There were also instances where the embalming services were to be availed of and the coffin was already purchased in other shop ahead of time. This was called “Redeemer Plan”. Consumer behavior had changed in favor of a better assessment of the different possibilities of services supplied and of their relative prices (Blayac, Bougette and Montet, 2014).

Based on the result of Profitability ratios, there was a good Profit Margin ratio. It was desirable since it meant the business generated more profits from its sales. The funeral industry business was one of the most profitable businesses because consumers wanted to pay dearly to get the best funeral service for their departed loved ones. Consumer spending for these needs was high indicating that funeral industry had good financial prospects.

B. Bargaining Power of Suppliers

The bargaining power of suppliers played significant role in the funeral industry market because there would always be unexpected deaths, supplies were needed, and services were launched every death. The prices of coffins from Pampanga and embalming medicines from Ramon, Isabela were pegged amidst the pandemic. The terms of payment even toned easier at a 60 days payment for coffins and higher discount price if paid in cash, about three to five percent range of discount. Medicines were all in cash basis. During the pandemic, COVID-positive cadavers did not need coffins. However, the need for Body bag and PPEs were purchased in cash basis within twenty four hours because the bodies must be buried right away, unless the bereaved family chose to have it cremated. According to the respondents, *“Wala naman nagbago sa terms and conditions ng pag –order ng kabaong at gamot before and during the Pandemic. Hindi rin mahirap kauspain mga suppliers namen kasi nakapag-build na kami ng very good working relationships sa kanila, magkakaiba man kami ng suppliers ng kabaong pero lahat from Pampanga, pero iisa lang naman sa gamot na pinagkukunan namen which is from IPI (International Pharmaceutical Incoraporated) na may pinaka malapit na branch sa Ramon, Isabela”. “Sa kabaong, usually, 60 days ang term of payment, pero kapag naic-cash namen, may discount na at least 5%. Sa gamot ay cash basis kami. Wala actually problema sa suppliers ever since kasi halos hindi naman nag increase ang presyo ng kabaong at gamot, kung meron man sobrang minimal lang”* (Nothing has changed in the terms and conditions of ordering coffins and medicine before and during the pandemic. The bargaining power of suppliers included negotiation over inclusion of a

supplier's product, conditions under which negotiation by suppliers increased the suppliers' bargaining power even when the suppliers' products were not substitutes for each other. In particular, negotiation increased the suppliers' bargaining power if suppliers faced smaller losses from disagreement when they negotiated (Craig, 2014).

All funeral businesses had two to three coffin suppliers, either wood or metal from Pampanga, but only Funeral H who was a Pre-need company purchased from La Union. Since the supplier was identified by the Main Office and dealt with centralized services and suppliers, it had full-service nationwide, and had identified supplier of mortuary supply down to funeral equipment. All funeral industries purchased their coffins in either cash basis or consignment for metal coffins. Embalming medicines were all cash purchases from the International Pharmaceutical Incorporated (IPI) with Head Office located in Cebu City and the nearest branch located was in Ramon, Isabela. According to the funeral industries, there were no better products other than the products by their own respective suppliers because they already built a long-term business relationship, trust, and loyalty for a very long time. However, the presence of powerful suppliers reduced the profit potential in the funeral industry. Suppliers increased competition by threatening to raise prices or reduce the quality of goods and services. As a result, they reduced profitability in funeral industries where businesses could not recover cost increases in their own prices.

As per data gathered, there was a decrease of liabilities which meant that all funeral businesses had the capability to pay its short-term and long-term liabilities. It should be noted that becoming more financially flexible due to having low-to zero liabilities might be seen as positive sign.

Potential Development of Substitute Products

As to services, traditional funeral service followed a commonly known service structure, as well as a common committal (burial) ceremony. However, in modern day society, people were no longer limited to one funeral service option. Customers tended to personalize and individualize bereavement services, Contemporary Funeral service included a *Celebration of Life.* Funeral services were not limited to a particular location, from flowers present at the service, to pictures and memorabilia featured, and physical objects and personal favorites of the deceased may be used to tailor a more individualized approach in honoring a loved one. The potential rise in crematorium was an element of contemporary funerals which included themed funeral and its "Novelty", for example, Chinese funeral. Burial was traditionally favoured in Chinese funerals but with a rapidly expanding population, cremation was becoming more common. Chinese burial practice dictated that the location of Chinese graves (which were usually mound-shaped) be chosen according to the complicated laws of feng shui. In Indian funeral, the casket was carried into the crematorium feet first while mourners recited prayers, an open casket displayed the deceased, and guests were expected to view the body. In Muslim funeral, Muslims were always buried and never cremated. It was a religious requirement that the body be ritually washed and draped before burial which should be as soon as possible after death.

Moreover, as to medicine supplies used in embalming, substitutes were not yet considered because there was no potential development of formalin product substitute. Formalin is a universal fixative and was routinely used as a preservative for dead bodies. As to other supplies like coffin, based on the data gathered from the respondents, there was a higher cost of production than that of purchasing a ready-made coffin from their respective suppliers. Therefore, it made funeral industry more attractive. In addition, it increased profit. Conversely, a high threat of substitute products made an industry less attractive. Mortuary products were considered "gold standard" due to ease of availability and cost-effectiveness. In spite of these advantages, it emphasized that for now, there was no safer alternative supplies for embalming (Chittemsetti et al., 2018). However, the threat of substitution products or services in a funeral industry affected the competitive environment for the funeral industry and influenced those funeral businesses' ability to achieve profitability like cremation. The availability of substitution services affected the profitability of a funeral industry because consumers could choose to purchase the substitute instead of the traditional funeral services (Financial Leadership, 2014).

Based on the data gathered, all funeral businesses were liquid. Whilst from an owner's perspective this might seem favourable, having too high liquidity ratios might mean that the resources of the funerals were being sidelined when cash on hand could be used to expand operations such as crematorium or improve existing non-current assets such as equipment to improve profitability.

C. Potential entry of new competitors

Funeral industry required high capitalization, competition with prepaid funeral plans, high-pressure coffin and medicine prices, and over all effective management. Therefore, potential competitors had difficulty entering the traditional industry because it required much capital and background and passion in handling dead bodies. Based on the data gathered from the owners and managers and some key employees, it was difficult to build or start a funeral business due to fact that there were numerous business requirements, apart from choosing a strategic location approved by the DENR, and the LGU. It was also very difficult to sustain the operation because there were already many funeral businesses in the province. According to the respondents *"mahirap magpatayo ngayon ng punerarya sa dami ng business requirements at kailangan ng malaking capital, i-consider mo din location na malayo na sa bahay-bahay dapat, kasi strikto na din ang DENR as to location. Kami na nakapag-patayo na nauna, before pa mga laws na yan, nakapili kami ng strategic location kung saan nakatayo ngayon mga punerarya namen. If in case may gusto magpatayo ng business na ganito, medyo mahihirapan pa din sya na maging stable at i-sustain dahil marami na rin punerarya dito sa atin. Kaming nagtagal na sa negosyong 'ito, masasabi naming Insitution na kami, mapagkakatiwalaan na sa serbisyo na binibigay namin".* In addition, *"hindi ka rin pwede magpatayo ng punerarya ng wala kang licensed embalmer".* (It is difficult to build or start a funeral business due to the fact that there were numerous business requirements and the need for a large capital, you should also consider a location that is far from residences and houses, because the DENR is also strict as to location. Long before our funeral started, we were able to choose the most strategic location where our business is situated right now. If in case someone

wants to build a business like this, it will still be a bit difficult for him to become stable and be able to sustain its operation because there are already many funeral homes here. We have been in this business for quite a long time, we can say that we are already an Institution, our community already trusted the service we provide. Moreover, you also cannot build a funeral business without a licensed embalmer). Potential entry of new competitors could both make a funeral industry more competitive and decrease profit potential for existing funerals.

All businesses in the funeral industry had the same embalming procedure therefore there was no competition with regard to embalming procedure except for Funeral H who had expertise in make-up and used the brand Max-Factor as make-up for longer time period because it was less greasy. Forty four percent were motivated to enter the industry because of the high profit involved and they needed to supplement their income (Waithaka, 2001).

The entry of a new competitor in the market tended to reduce the market prices. Potential entry of cremation would affect the market share because when there were more funeral businesses competing and one was new in the arena for the same market share, customers chose those with lower pricing, and the general price level would go down. Therefore, it could affect the financial performance of the funeral business. The variables that affected potential entry of new competitors like barriers, costs, prices, and competitors influenced the performance of the funeral business that caused changes to maintain their market position.

The entry of a new competitor in a market would affect greatly the Gross Profit margin rate which measured the reasonability of the price of the services of each funeral. Generally, the higher, the better. But too high might mean the services of products were overpriced in order to accommodate their operating expenses.

D. Rivalry among Competing Firms

There was an intense rivalry among funeral businesses in the province because there were eight competing firms. High intensity of competitive funeral industry rivalry could make a funeral more competitive and thus decrease profit potential. In comparison, low intensity of competitive funeral industry rivalry would make an industry less competitive. It also increased profit potential for the existing funerals. Funeral industry outside the province which offered crematory services were part of the competing players within the industry.

All funeral businesses offered free service for babies who died below one month old. Funeral H had unique promo for deceased teachers, either private or public school teacher, provided that they die within the “Teachers Day month” which is the month of October. Funeral F offered to all its employees free funeral service in case of death, and fifty percent for immediate family members. All funeral industry within Vizcaya were all competitors considering customers could avail any of the funeral services. However, Funeral G had an advantage of being the only funeral industry in the town and residents

availed its services automatically regardless if some funeral offered cheaper price. Some customers tended to shift to other competitors for cheaper price and discount on credit. Consumers would not shift to other competitors simply for the reason that these consumers were loyal to their particular funeral because they already had prior experience of the services besides word-of-mouth advertisements. The competition as non-aggressive maintained the prices in the provincial range as the main business strategy. The high demand and low competition resulted in simple and less innovative strategies and especially with low-cost advertising (Anacleto et al., 2019). The opportunity to have crematory services in the province might increase profit because they did not need to transport the cadaver and avail their services.

An Asset Turnover ratio of value 0.25 to 0.5 was considered as a 'good' total turnover asset for the industry as the total assets were able to produce enough revenue at the end of the year. However, due to the negative impact of the pandemic, Funerals E and F had declined in their sales which also caused the decline of their asset turnover ratio because of the effect of the pandemic in which they were not accredited by the LGU to service or cater to COVID-positive cadavers.

Moreover, based on the data provided by the owners and managers, there was no closure plans for the funeral business since they were profitable.

Based on the data gathered, though there was a minimal decrease of profitability, the funeral industry still had healthy profitability growth. Due to market liberalization, a business had the ability to increase its profit, to survive, and be competitive (Yazdanfar, 2013).

3.2 External Factors using PESTLE which stands for Political, Economic, Social, Technological, Legal, and Environmental factors

Political Factors

The political factors determined the extent to which a government may influence the funeral industry. The required business taxes were promptly paid. Paying the right amount of tax and on-time provided good business reputation. Also, the higher the income and tax they declared, the higher the credit rating. The governments could raise or lower business tax, which would impact on funeral industry profits. They could bring in new laws like the National Minimum Wage, which would impact on profits and employment rights. It is important to keep a reasonable ratio of current assets to current liabilities to ensure that short-term obligations could be paid on time, opportunities for volume expansion could be seized, and unforeseen circumstances could be handled easily. The appropriate magnitude for this ratio varied widely among industries, companies, and the specific circumstances of individual companies. However, a popular rule of thumb was that a company's current ratio should be at least 2 is to 1.

Trade restrictions for funeral industry was stated in the DOH memorandum No. 2020-0158 subject on Proper Handling of the Remains of Suspect, Probable, and Confirmed COVID-19 Cases. Moreover, the tariff policies that affected funeral industry

included exemption from VAT when provided by an undertaker or embalmer as part of a funeral package that included the disposal of the remains of the dead, supply of a coffin, the cover and fittings for a coffin, the casket, and urn or scatter tube.

At the local government setting, some politicians endorsed a particular funeral service and sponsored the funeral service of the deceased. Funeral A's owner was a municipal councilor, and Funeral G's owner's wife was also a municipal councilor, but as far as politics was concerned, there was no political problems where the business was situated. Local government must extend support and protect it against politicking and eventual loss of culture and family (Derogongan, Agosto, and Bariñan, 2019).

Based on the data gathered, it is important to keep a reasonable ratio of current assets to currents liabilities to ensure that short-term obligations could be paid on time, opportunities for volume expansion could be seized, and unforeseen circumstances could be handled easily. The funeral businesses had a current ratio of more than one. It is a good indicator that it could cover its current liabilities on time. Outside creditors would consider this a positive data to finance the business whenever a need of loan arises.

Economic Factors

Economic Factors took into account the various aspects of the economy and how the outlook on each area could impact the funeral industry.

The combination of high poverty and low political stability made the province more responsive to the increasing financial burden of death costs on households prompting them to a more active interference into funeral regulation (Sadigov, 2020). Regardless of the social class level of a customer, funeral industries had guaranteed income for whatever packages they might avail. The economic and market conditions seemed almost did not affect the purchase of coffins and embalming medicines from the suppliers amidst the pandemic. The terms of payment were even toned easier at 60 days for coffins and on a consignment basis in Pampanga because during the pandemic, COVID-positive cadavers did not need coffins and within 24 hours, the bodies must be buried, unless the bereaved family chose to have it cremated.

Even in death, the spirit of inflation crept into the grave. There was no escaping the constant increase in prices. One of which was the soaring prices of the commodities that limited the purchasing power of the consumers, the fuel prices, and lastly, the call for salary increase. The funeral industry, like any other companies, also needed to survive although the price increase on the funeral services was not so significant and reasonable. The volatile prices of fuel from the foreign market greatly affected the business. Ninety percent of the fuel requirement in the Philippines were imported internationally. Cremation, for example, was affected by the fuel increase plus the logistics fleet. Indirectly, the increase in the electricity rate had also affected the business. Aside from the oil price increase, another factor that caused inflation was the insufficient rice supply and the exchange rate against the US dollar. The Philippine peso had been weak since the US increased its interest rates, according to the Department of Trade and Industry (DTI). The Tax Reform for Acceleration and Inclusion known as TRAIN Law, however,

had a very low contribution. Under this law, the employees had higher take-home wages. The problem was the prices of the commodities such as rice, toiletries, and utilities had gone high forcing the workers to call for a salary hike. Funeral H which was into pre-need had an advantage. It would allow clients to pay a small amount every month for 5 years. Instalments were affordable and memorial plans were transferable, assignable, and were not affected by inflation. Funeral H had complete memorial services to all plans, plus value added benefits like Cash Benefit, Waiver of Instalments, Unpaid Balance Deemed Paid, and Accidental Death and Dismemberment. This way it would not be so much of a burden to cash out a huge amount when the time comes.

Moreover, unemployment rates affected funeral business in way that when bereaved family had more unemployed members, they tended to choose the cheapest package available leading to minimal income to the funeral business.

The factors mentioned above directly influenced the financial performance of the funeral industry. However, since funeral service was a must, they had guaranteed income and financial stability with competitive earnings. As an indicator of efficiency, there must be profit. A financial gain was the earnings from sales or revenue after deduction of all costs, including interest payment on debt and tax (Bashar and Islam, 2014). The Return on Assets (ROA) result indicated that the funeral industry was able to maximize the use of its assets for getting more profits. The Return on Equity (ROE) result indicated that the funeral industry was more effective at geneerating profit from its existing assets. Likewise, the business that increased in its ROE over time was likely getting more efficient.

Social Factors

Social factors were related to the cultural and demographic trends of society. Social norms and pressures were key to determining consumer behavior. Consumer behavior helped funeral industry determine what services to offer. When they knew what customers buy and how they went about buying those services, the funeral could more easily spot a need that had not yet been satisfied. Moreover, when funeral industry knew how customers behaved in relation to the services they were selling, they had better understanding of how to provide good service to them, increasing the chance for repeat customers and contributing to their profitability.

Arranging a funeral was a complex socio-emotional process that crystallized multiple affects (McManus and Schafer, 2014). Often, cultural norms and practices were tied with religious beliefs, including the beliefs around what happens after a person dies. There was a correlation between religiosity and purchase intention (Katan et al., 2019). The Ifugaos believed in the immortality of the soul so much so that the dead was given elaborate ceremonies consisting of daily butchering of animals until the body was buried. Embalming was not a part of their practice. However, it seemed to be vanishing. The cadavers decayed faster without embalming. Liquid and blood from the cadaver would visibly run out from the body and other undesired effects of decomposition. In today's health protocols, Ifugaos already embraced the funeral services provided some practices like sharp nails in the coffin must be changed and had it double foamed because the body might be hurt and the bereaved family might be haunted by the soul of the deceased

family member. In today's situation, customers were still more on traditional funeral rather than cremation, except for COVID-positive cadavers in which protocols were strictly adhered to. Traditional funeral service was cheaper compared to cremation. For pre-need memorial service, availment of such may require age limit up to sixty five years old without pre-existing conditions upon availment and one year contingency period. Population growth is an advantage, because mortality rate goes hand-in-hand. Health consciousness had significant negative effect on the mortality rate. Health consciousness could lower death rate through health life goals and perceived behavioural control.

Career attitudes of customers affected the funeral industry' profitability by providing information and suggestions how to improve their services. Foundations of families that were more homogeneous in terms of educational backgrounds and financial resources also tended to support upward social mobility (Noll, 2016).

Social factors as mentioned above influenced actions when it came to managing finances. Also, these were proof that all social factors incremented financial resources, and vice versa. Increased financial performances led to greater social benefits. Based on the data gathered, the Profitability ratios used like Net Profit Margin ratio, Gross Profit ratio, Return on Asset, and Return on Equity reflected the combined effects of liquidity and management in handling the assets and liabilities on the operating results of the funeral business.

Technological Factors

The technology investment of funeral industry would reduce production costs contributing to increased profits. It reduced transaction costs because customers could buy cheaper package with unchanged quality. Technological advances had made it possible for Funeral Industry to be more efficient, capture more opportunities, boost customer loyalty and, most importantly, make more money. Without a doubt, technology had enhanced efficiency and convenience in handling Funeral Industry that made the Funeral Industry business world competitive. Technology produced efficiency and reduced marketing costs, challenges were easier to identify, organization and time tracking became better, business safety improved, and overall costs were reduced.

Technological factors were linked to innovation in the funeral industry as well as innovation in the overall economy. The "modern" or traditional funeral, as it was known in the Funeral Industry today, included embalming, coffin, service, and burial in a cemetery which was still practiced until now. No automation of the traditional service could replace it. Therefore, technological advances in the funeral service had yet to be considered according to the respondents. Funeral H, the largest Filipino Pre-need Deathcare company together with Filipino Tech Startup: Kezar Atlas Technologies launched the Mobile Application for the public on November 15, 2019, which was available for both Android and iOS, aimed to modernize the funeral industry with innovative features such as "Funeral H Gate" which created profile for the deceased loved one to receive messages and prayers online and "E-Burol Funeral Viewing" that allowed families and friends to view Funeral H wakes from anywhere in the world (www.stpeter.com). By

improving business processes, technology increased productivity in various funeral operations like the use of email and social media which had made communication easier and faster.

Moreover, advances in research and development affected technology, and eventually improved an economy's rate of productivity. Based on the data gathered from the owners and manager, technological development in the funeral industry involved consumer access to the Internet, social networks, and technology associated with logistics. Technological advances had made it possible for funeral industry to be more efficient, capture more opportunities, boost customer loyalty and, most importantly, make more money. Technology produced efficiency, reduced marketing costs, easier to identify challenges, better organization and time tracking, improved business safety, and reduced overall costs. Based on the data gathered, the more advanced the technology was, the more profitable the business would be. In line with this, the efficiency ratios of the funeral businesses measured how well the funeral industry was managing its assets. The asset turnover ratio was generally used to determine the efficiency of the business in using its resources like social media to generate sales.

Legal Factors

Legal factors pertained to any legal forces that defined what a business could or could not do. Funeral homes received most of the benefits of regulation (Ellig, 2015). According to the respondents, industry regulations governing funeral industry included Presidential Decree No. 856 December 23, 1975, Code On Sanitation, Chapter Xxi Disposal Of Dead Persons, Sec.93-98. The licences and permits needed for the operation were Bureau of Internal Revenue TIN, Barangay Clearance, Department of Trade and Industry Business Name Registration Certificate, Mayor's Permit/ Business Permit, SEC Registration Certificate (for Partnership and Corporation), Fire Safety Inspection Certificate (FSIC), Sanitary Permit, and DENR Permit. Among the government-mandated permits were SSS Employer's Registration which would ensure that employees were covered with insurance benefits like sickness, disability, maternity and death in accordance with Republic Act No. 8282. PhilHealth Employer's Registration would cover their employees' health insurance. Pag-ibig Employer's Registration would benefit employees who intended to apply for housing loan. Also, Labor Laws governing the funeral industry was DOLE Book IV which stated Health, Safety, and Social Welfare Benefits.

Being legally in operation ensured the legitimacy of the funeral industry as a legal entity to make profit and tax-status operation. Further, it ensured compliance with legal standards for bookkeeping and accounting. This established that the funeral industry was paying taxes and employees were covered under adequate insurance and the business was reporting income to the government. Also, it established consumers' trust when a funeral industry was legally operating. Legally operating funeral industries also made them eligible to receive supplier discounts that they would not normally receive as an unregistered operation.

Such legal factors played a big part in deciding how funeral industry businesses operated and what profits they received as well as how customers and employees behaved. Also, these legal factors played an important role in determining the success rate of funeral industry businesses and how it affected the financial performance of the funeral industry. The Government could levy taxes on funeral industry among the regulatory activities which protected costumers, employees, and the entrepreneurs. Based on the data gathered, there was a good profit margin ratio. It was desirable since it meant the funeral industry generated more profits from its sales. The Gross profit margin rates were healthy which meant that the funeral industry did well in managing its cost of sales. It also showed that the business had more to cover for operating, financing, and other costs.

Environmental Factors

Environmental factors were also sometimes called 'ecological factors' which affected the operation of the funeral industry. Environmental factors referred to variables regarding the physical environment. This could include things like climate change, temperature, the availability of energy, or any direct consequences of these things. It had significant positive and negative impact on profitability because these environmental factors could produce both psychological distress and additional costs burdens for Funeral Industry owners.

Environmental factors focused on the ecological impacts on funeral industry and how to adapt to these changes. Environmental factors like weather conditions, temperature climate change, and pollution did not affect the Funeral Industry. The respondents said *"Bumabagyo man o umaaraw, tuloy pa din ang pagserbisyo sa patay, kasi wala naman pinipiling oras at panahon ang kamatayan".* (Even if the weather is stormy or sunny, services for the dead continues because death does not choose the hour or the time). However, in terms of natural phenomenon like pandemic, for Funeral E and F, they mentioned it was a disadvantage and affected profitability. Funeral E did not accept COVID-positive cadavers because bereaved families tended not to pay the services or on-credit, while Funeral F was not an accredited funeral industry to cater to COVID-positive cadavers in the municipality.

Environmental factors had positive and negative significant impact on profitability because these factors could produce both psychological distress and additional costs burden funeral industry owners. The data gathered showed that there was minimal decrease of profitability. The funeral industry still had healthy profitability growth amidst environmental factors.

To summarize the factors affecting financial performance of the funeral businesses towards competitive advantage, these included the assessment of the external environment using Porter's Five Forces and the PESTLE. Under Porter's Five Forces, *Bargaining power of the consumers* included free-will to choose from the different standard package price offered by the funeral businesses. Based on the result of Profitability ratios, there was a good Profit Margin ratio. It was desirable since it meant

the business generated more profits from its sales. The funeral industry business was one of the most profitable businesses because consumers wanted to pay dearly to get the best funeral service for their departed loved ones. Consumer spending for these needs was high indicating that funeral industry had good financial prospects.

Bargaining power of suppliers played a significant role in the funeral industry market because there would always be unexpected deaths, supplies were needed, and services were launched every death. As per data gathered, there is a decrease of liabilities which means that all funeral businesses have the capability to pay its short-term and long-term liabilities. It should be noted that becoming more financially flexible due to having low-to zero liabilities might be seen as positive sign.

Potential development of substitute products in a funeral industry affected the competitive environment for the funeral industry and influenced those funeral businesses' ability to achieve profitability like cremation. Based on the data gathered, all funeral businesses were liquid whilst from an owner's perspective this might seem favourable. Having too high liquidity ratios might mean that the resources of the funerals were being sidelined when cash on hand could be used to expand operations such as crematorium or improve existing non-current assets such as equipment to improve profitability.

Potential entry of new competitors in the funeral industry required high capitalization, competition with prepaid funeral plans, high-pressure coffin and medicine prices, and over all effective management. The entry of a new competitor in a market affected greatly the Gross Profit margin rate which measured the reasonability of the price of the services of each funeral. Generally, the higher the better. But too high might mean the services of products were overpriced in order to accommodate their operating expenses.

Rivalry among competing firms. There was an intense rivalry among funeral businesses in the province because there were eight competing firms. High intensity competition among the funeral industry could make a funeral business more competitive and thus decrease profit potential. However, due to the negative impact of the pandemic, Funerals E and F had declined in their sales which also caused the decline of their asset turnover ratio. Because of the pandemic, they were not accredited by the LGU to service or cater to COVID-positive cadavers. Also, based on the data gathered, though there was a minimal decrease of profitability, the funeral industry still had healthy profitability growth. Due to market liberalization, a business had ability to increase its profit, to survive, and be competitive (Yazdanfar, 2013).

External Factors using PESTLE included political factors which determined the extent to which a government may influence the funeral industry. The required business taxes were promptly paid. Paying the right amount of tax and on-time provided good business reputation. Also, the higher the income and tax they declare, the higher the credit rating. The government could raise or lower business tax, which would impact on funeral industry profits. Based on the data gathered, it was important to keep a reasonable ratio of current assets to currents liabilities to ensure that short-term obligations could be paid on time, opportunities for volume expansion could be seized, and unforeseen

circumstances could be handled easily. The funeral businesses had a current ratio of more than one. It was a good indicator that it could cover its current liabilities on time. Outside creditors would consider this a positive data to finance the business whenever a need of loan arises. *Economic factors* took into account the various aspects of the economy, and how the outlook on each area could impact the funeral industry. It directly influenced the financial performance funeral industry. However, since funeral service was a must, they had guaranteed income and financial stability with competitive earnings. As an indicator of efficiency, there must be profit. It was a financial gain. It was the earnings from sales or revenue after deduction of all costs, including interest payment on debt and tax (Bashar and Islam, 2014). The Return on Assets (ROA) result indicated that the funeral industry was able to maximize the use of its assets for getting more profits. The Return on Equity (ROE) result indicated that the funeral industry was more effective at generating profit from its existing assets. Likewise, the business that increased in its ROE over time was likely getting more efficient.

Social factors increment financial resources, and vice versa. Increased financial performances lead to greater social benefits. Based on the data gathered, the Profitability ratios used like Net Profit Margin ratio, Gross Profit ratio, Return on Asset, and Return on Equity reflected the combined effects of liquidity and management in handling the assets and liabilities on the operating results of the funeral business.

Technological factors such as technological advances had made it possible for funeral industry to be more efficient, capture more opportunities, boost customer loyalty and, most importantly, make more money. Technology produced efficiency, reduced marketing costs, easier to identify challenges, better organization and time tracking, improved business safety, and reduced overall costs. Based on the data gathered, the more advanced the technology is, the more profitable the business will be. In line with this, the efficiency ratios of the funeral businesses measured how well the funeral industry was managing its assets. The asset turnover ratio was generally used to determine the efficiency of the business in using its resources like social media to generate sales.

Legal factors played a big part in deciding how funeral industry businesses operated and what profits they received, as well as how customers and employees behaved. Also, these legal factors played an important role in determining the success rate of funeral industry businesses and how these affected the financial performance of the funeral industry. The Government could levy taxes on funeral industry among the regulatory activities which protected the costumers, employees, and the entrepreneurs. Based on the data gathered, there was a good profit margin ratio. It was desirable since it meant the funeral industry generated more profits from its sales. The Gross profit margin rates were healthy which meant that the funeral industry did well in managing its cost of sales. It also showed that the business had more to cover for operating, financing, and other costs.

Environmental factors had positive and negative significant impact on profitability because these factors could produce both psychological distress and additional costs burden for funeral industry owners. Results showed that there was a minimal decrease

of profitability. The funeral industry still had healthy profitability growth amidst environmental factors.

Section 4. The Challenges in the Funeral Industry Operations Encountered Before and During the Pandemic Under External Factors

Bargaining Power of Buyers

Bargaining power of Buyers included their free-will to choose from the funeral industry of their choice. However, buyers made *"tawad-sagad"* (bargain for the lowest fixed-price) if they were financially distressed. Porter's Five Forces framework referred to the pressure that buyers could put on funeral businesses to get them to provide higher quality products, better customer service, and/or lower prices. All the respondents shared that *"Laging nasusunod gusto ng customers, kumbaga, customers are always right, if may gusto sila idagdag sa package like for example, mga pamahiin sa kabaong (interior ng kabaong), napapag-usapan naman lahat. Kung may gusto sila ipadagadag at kaya naman ibigay ng libre, why not? Pero kung hindi naman kaya, napapag-usapan naman"* (The customers' choice will always prevail because customers are always right. For example, if a customer wants to customize the coffin's interior due to tradition, and requires minimal expense on our part, it is given for free of charge; however, if it is not, everything can be bargained). Another respondent said that one of the challenges was that *" Kung may unclaimed salvage victims , it will be automatically a loss sa amin kasi, regardless kung may mag claim or wala, the funeral will still performs its standard services in coordination with the Philippine National Police (PNP)"* (Unclaimed salvage victims' cadaver is automatically a loss, and regardless if claimed or unclaimed, the funeral will still perform its standard procedure and services in coordination with the Philippine National Police). Another one was, during the pandemic, Funeral A shared *"Tinakbuhan kami ng namatayan, dala pati patay, hindi na nagbayad sa kasunduan date, at wala na kami magagawa nun"* (The bereaved family ran away from us, carrying the dead and did not pay on the agreed date, and there was nothing we could do then). However, prior to accepting a cadaver, contract had been signed by both parties. As stated in the contract, settlement of payment must be done on or before the burial. But in some instances wherein the bereaved family had financial difficulties, extension of payment for one week was acceptable. *" Ang hirap naman pilitin kung wala naman pambayad, or hirap sa napagkasunduan terms and conditions, so, wala kami magawa kundi maghintay, kasi kung kakasuhan naman namen, mas mahal pa 'yung pag-file ng kaso keysa sa masisingil namen"* (It is difficult to force payment if there is no money to pay, or to settle payment based on the agreed terms and conditions, so, we can do nothing but wait, because if we will file a case, it is more expensive than the amount to be collected).

Funerals A and D shared that during the pandemic, *"Sa ayaw at sa gustuhin man ng namatayan ng COVID-positive, need nila bayaran body bag na gagamitin sa patay, PPE ng mga maglilibing at iba pang kailangan na nakasaad sa protocol"* (Bereaved family members of COVID-positive cadavers, whether they like it or not, need to pay for the body bag used on the deceased, PPE of the undertakers, and other necessities stated in the protocol).

The consumers made an informed choice by ensuring that relevant prices for similar goods and services were disclosed (van der Laan, & Moerman, 2017). Perception and understanding of customers in the funeral service development significantly influenced the preferences of funeral services or the intention to purchase innovation to the development in funeral services (Sam Sam, 2014).

An Asset Turnover ratio of value 0.25 to 0.5 was considered as a 'good' total turnover asset for the industry as the total assets were able to produce enough revenue at the end of the year. However, due to the negative impact of the pandemic, Funerals E and F had declined in their sales which also caused the decline of their asset turnover ratio.

Bargaining Power of Suppliers

According to the respondents, the COVID-19 pandemic had a differing impact on different value chains of the funeral industry, as well as within each individual value chain. While the impact of demand reductions would eventually affect all producers in the value chain, the financial burden was unlikely to be shared equally by producers across the chain. Measures were taken by producers to protect their own cash position. However, in case of funeral industry in Nueva Vizcaya, there was still on-time and continuity of payments. The bargaining power of different suppliers in the chain was key in determining which chain partners would manage to avoid costs. For this reason, suppliers patronized their own funeral industries because they already built good business relationship long before the pandemic and during the pandemic. According to the respondents, *"Wala naman nagbago sa terms and conditions ng pag-order ng kabaong at gamot before and during the Pandemic. Hindi rin mahirap kausapin mga suppliers namen kasi nakapag- build na kami ng very good working relationships sa kanila, magkakaiba man kami ng suppliers ng kabaong pero lahat from Pampanga, pero iisa lang naman sa gamot na pinagkukunan namen which is from IPI (International Pharmaceutical Incoraporated) na may pinaka malapit na branch sa Ramon, Isabela". "Sa kabaong, usually, 60 days ang term of payment, pero kapag naicash namen, may discount na at least 5%. Sa gamot ay cash basis kami. Wala actually problema sa suppliers ever since kasi halos hindi naman nag increase ang presyo ng kabaong at gamot, kung meron man sobrang minimal lang"* (Nothing has changed in the terms and conditions of ordering coffins and medicine before and during the pandemic. It was also not difficult to talk to suppliers because we had already built a very good working relationships with them, although we have different suppliers of coffins but all are from Pampanga, but we only have one supplier of embalming medicines, which is from IPI (International Pharmaceutical Incorporated) with the nearest branch in Ramon, Isabela. As to coffins, usually, the payment term is 60 days, but when it is paid on cash, 5% discount is given. As to medicines, we are on cash basis. There is actually no problem with suppliers ever since because the price of coffins and medicines have hardly increased).

Innovative creativity was manifested in the provision of funeral services between suppliers and Funeral Industry with observations on the contemporary shift and its background framework of a 'good funeral' (Tanaka, 2012).

Potential development of substitutes

According to the funeral industries, they had no ability to produce or develop substitute products except for two funeral industries, Funeral F and G who tried to produce their own coffins but due to lack of expertise in carving and carpentry, and due to lack of expert carpenters, it was disregarded as potential development in their business. All the respondents shared that *"Mas advantageous ang bumili ng ready-made na kabaong keysa mag-maintain ng 2-3 na karpintero na expert sa paggawa ng kabaong, mas malaki 'yung cost. Sa gamot naman, walang pwedeng alternative sa pang embalsamo. Yun lang talaga 'yung gamot na gagamitin, unless may sariling chemist at laboratory ang punerarya, pero hindi rin 'eto possible."* (It is more advantageous to buy ready-made coffin than to maintain 2-3 carpenters who are experts in making coffins, the cost is greater. In medicine, there is no alternative medicine to embalming. We use only one prescribed embalming medicines, unless the funeral home has its own chemist and laboratory, but this is also not possible).

Potential entry of new competitors

The vital motivation of entry into the funeral arena was anticipated high profits (Wanjiru, 2001). Anticipated high profits played a role key in motivating entry (Waithaka, 2001). All manager or owners were licensed embalmers. They were given the Certificate from the Examiners for Undertakers and Embalmers (CEUE) from the Department of Health. The CEUE conducted licensure examination for embalmers twice a year (March and September). The examination consisted of two (2) parts: written and oral or practical. The examinee had to pass the written examination to qualify for the oral or practical examination. Once the examinee passed the oral/practical examination, he or she would be issued the Certificate of Registration (COR) and the ID as a licensed embalmer and he or she could practice the profession in the country.

According to the respondents *"Mahirap magpatayo ngayon ng punerarya sa dami ng business requirements at kailangan ng malaking capital, i-consider mo din location na malayo na sa bahay-bahay dapat, kasi strikto na din ang DENR as to location. Kami na nakapag-patayo na nauna, before pa mga laws na yan, nakapili kami ng strategic location kung saan nakatayo ngayon mga punerarya namen. If in case may gusto magpatayo ng business na ganito, medyo mahihirapan pa din sya na maging stable at i-sustain dahil marami na rin punerarya dito sa atin. Kaming nagtagal na sa negosyong 'ito, masasabi naming Institution na kami, mapagkakatiwalaan na sa serbisyo na binibigay namin".* In addition, *"hindi ka rin pwede magpatayo ng punerarya ng wala kang licensed embalmer".* (It is difficult to build or start a funeral industry due to the fact that there were numerous business requirements and the need for a large capital. You should also consider a location that is far from residences and houses because the DENR is also strict as to location. Long before our funeral started, we were able to choose the most strategic location where our business is situated right now. If in case someone wants to build a business like this, it will still be a bit difficult for him to become stable and be able to sustain its operation because there are already many funeral homes here. We have been in this business for quite a long time, we can say that we are already an Institution, our

community already trusted the service we provide. Moreover, you also cannot build a funeral industry without a licensed embalmer).

Rivalry among competing firms

Some individuals engaged into funeral industry continued operating funeral industries inherited from their parents and relatives but also turned to local politics (Lyons, 2016). Therefore, there was clearly money to be made in the Funeral Industry and because death was inevitable, there would always be a market everyday (Thompson, 2017).

The competitors were the main challenge of the funeral industry (Granada, 2019). According to the respondents, the challenge was to be the lowest-cost provider in order to gain customers. In Nueva Vizcaya, there was an intense rivalry among funerals that could limit profits and lead to competitive moves, including price cutting, increased advertising expenditures, or spending on service improvements and innovation. *"Nagkakatalo-talo na lang sa dame ng kakilala, connections, at gaano ka kabait at accomodating sa mga customers, kanya-kanyang loyal customers na lang yan".* (It is matter of how many acquaintances you have and connections, and how kind and accommodating you are to customers. We have our own loyal customers). Funeral G had an advantage of being the only funeral industry in the town and residents availed its services automatically regardless if some funeral offered cheaper price. Some customers tended to shift to other competitors for cheaper price and discount on credit. Consumers were loyal to their particular funeral because they already had prior experience of the services besides word-of-mouth advertisements. According to the respondents *" 'Yung mga ibang customers, nag-i-scout pa din kung saan may pinaka murang punerarya, pero nevertheless, kung saan meron na silang prior experience na punerarya, dun na rin sila ulit mag-aavail ng services".* (Other customers still tend to scout for the cheapest funeral service; nevertheless, if they already have prior experience with a particular funeral, they will still avail the services).

There was no statement given that sooner or later, the funeral would close because of external and internal factors. These funeral homes were already considered institutions in their respective towns considering the number of years in the business amidst pandemic. They also had trust funds, but Funeral H shared that it had billions in their Trust Fund in case of bankruptcy. It only entrusted its trust funds to the country's leading banks such as Bank of the Philippine Islands (BPI), Banco de Oro (BDO), Metrobank (MBTC), Landbank of the Philippines-UCPB (LBP), Rizal Commercial Banking Corporation (RCBC), UnionBank of the Philippines (UBP) and Security Bank and Trust Company (SBTC) for the protection and security of its planholders. All the Funeral Industry would not incur cost in case of closure.

At a glance, the challenges encountered by the funeral industry using Porter's Five Forces framework were the following: strong bargaining power of buyers by making bargains or haggles to lower the package price; the bargaining power of different suppliers in the chain was key in determining which chain partners would manage to avoid

costs; hiring a coffin expert carpenter was more costly than that of purchasing a ready- made coffin from their respective suppliers; there was difficulty in starting a funeral business due to fact that there were a lot of business requirements; need for a strategic location approved by the DENR and the LGU; passion in handling dead bodies; one must have a licensed embalmer; and there was an intense rivalry among funeral businesses in the province.

Moreover, challenges encountered by the funeral industry using PESTLE framework were adherence with the Government laws and regulations, inflation, flexibility in the deeply ingrained culture, varied traditions, beliefs and values, additional secondary services to combat trend, natural calamities and phenomena, and mandated business permits and licenses.

Section 5. The "Futures Thinking Model" for the Funeral Industry

The Futures Thinking Model for the Funeral Industry was crafted by adopting the required key elements from the Generic Foresight Process (GFP) Framework. It determined the current situations of the Funeral Industry along with the Traditional Service and changed drivers both internal and external factors. Given these premises, the researcher conducted interview, document scanning, and analysis of the same (documents) in order to interpret and determine what might happen in the future and be able to set a clear direction in the future.

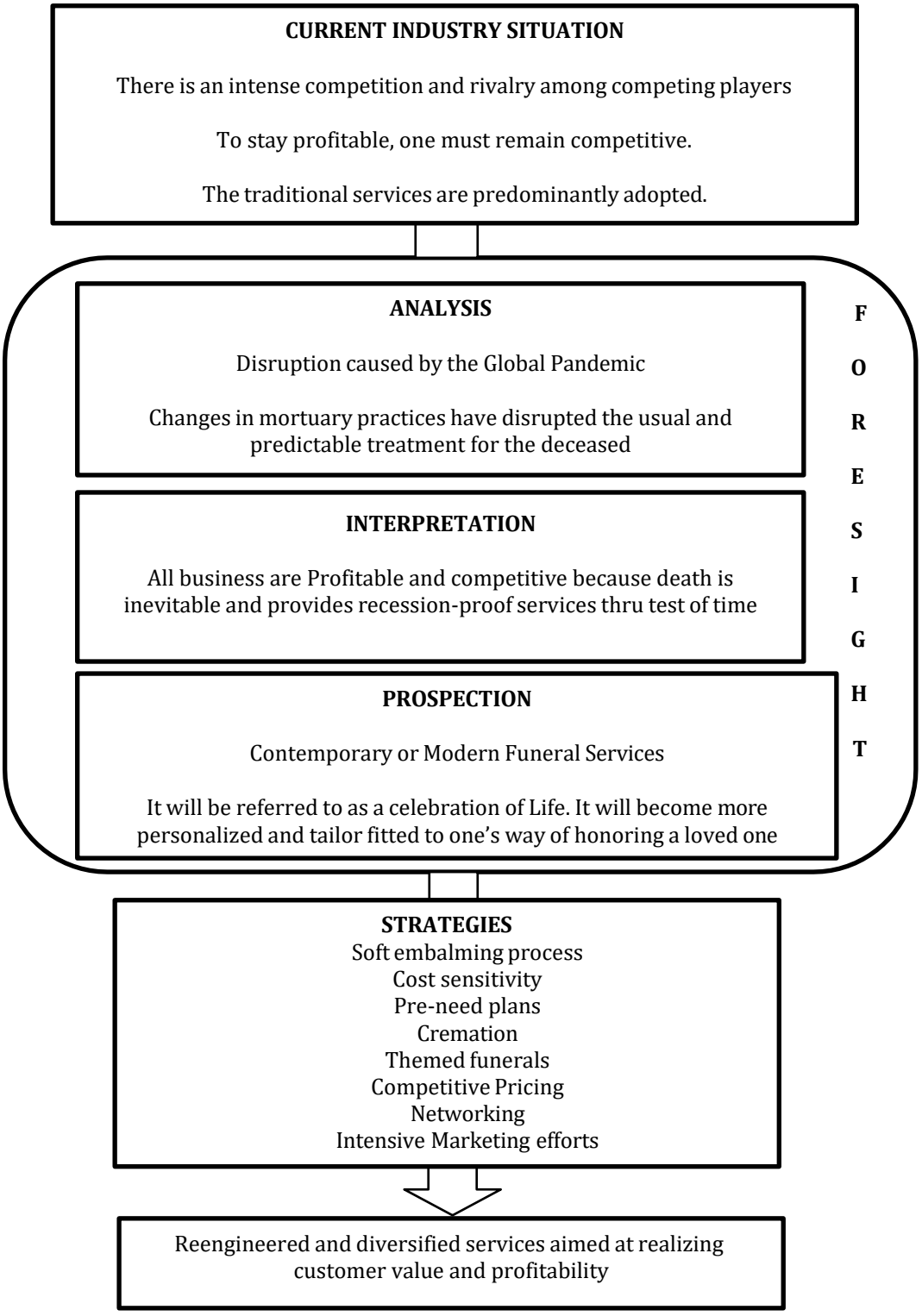


Figure 4. *The "Futures Thinking Model" for the Funeral Industry*

The importance of proposing a Futures thinking mode was to help funeral industry managers or owners as well as employees understand the current situations, trends, and emerging issues and align their visions and serve as a road maps for a desired future. The informed preparedness was precisely why the futures thinking model was likewise important. It anticipated changes because it considered the complexity of the vast internal and external factors that can influence the outcome of a decision and to stay competitive.

With regard to the current industry situation, there was an intense competition and rivalry among competing players in the industry. Eight established and well-known funeral businesses in the province must stay profitable in order to stay competitive. The funeral businesses amidst the pandemic did not greatly affect their business operation. In fact, there were funeral businesses whose operations became favourable during the pandemic especially those which were accredited by the LGU to cater to COVID-positive cadavers. As to profitability, all the funeral businesses were efficiently handling all available resources based on the operating results of the business. The Profitability Ratios showed effectiveness of the funeral business operations. One of the current operations included traditional embalming process.

The key aspect of this model was foresight, which started with analysis. As shown in the model, there were changes in mortuary practices due to the disruption caused by the global pandemic such as the usual and predictable treatment for the deceased. Along the area of Interpretation, all funeral businesses were profitable and competitive because death is investable and provides recession-proof services thru test of time. Lastly, in terms of prospection, contemporary funeral services were often referred to as a celebration of life rather than death. This was due to these type of services being more personalized to the deceased individual and not following the traditional structure. In the contemporary funeral services, the location could be a park, pub, beach, or someone's home. Choosing a unique location allows for an individualized funeral celebration, and rituals could involve uncommon, or tailor-fitted, rituals to honor the deceased. These rituals did not usually follow traditional common practices and physical objects may be used to suit a more individualized approach to honoring a loved one.

The Futures Thinking Model for the funeral industry was expected to result to a re- engineered and diversified services of funeral businesses in a direction where they wanted to go to and understood and valued by consumers therefore increasing their profitability. The strategies included soft embalming, although the embalming process might not change. However, in today's modern day society, people were no longer limited to one and traditional funeral service option. Somehow, the Philippines could adopt soft- embalming, that required freezer because soft-embalming had limited time for open-coffin viewing. Furthermore, soft-embalmed cadavers have exceptional benefits, particularly for anatomical investigations and teaching, and since St. Mary's University offered BS Forensic Science, it could be of big help. Cost Sensitivity would hit rock bottom, there would be a large opportunity for firms who believed in supporting the emotional needs of those touched by death. Pre-Need plans would go through a major shift. The current business model struggled and as a result appeared to be working at odds with the funeral industry. This friction would come to a head. Smart business minds within the funeral profession would focus on it and new powerful solutions would emerge. Cremation would

hit up considering the industry started addressing some of the underlying issues brought on by the shift in pricing strategies and natural phenomena. There would be a unique spin on the traditional funeral designs to themed funerals because these were social events designed to give those attending the funeral a chance to pass on their respects to family members, and commemorate the life of the departed. Themed funerals were more personalized occasions, usually chosen by the deceased to reflect themselves. They could be themed around a personal passion, a special achievement, a favourite color or a much-loved place. Along with these strategies, competitive pricing created dynamism in the funeral market, like competing with cremation was partially a matter of price, but it was also a matter of convenience and even changing priorities. Therefore, building strong networking and business relationships created opportunities like meeting with all the members of the Philippine Mortuary association, sharing best practices and having conversations on their newest technology and innovation, and having dialogues with other industry connections. Intensive marketing efforts like social networks and viral marketing, paid media advertising, internet marketing, and conversational marketing must be opted for because these guaranteed profitability.

Conclusions

Based on the results of this study, the following conclusions were drawn:

Most of the funeral industries in Nueva Vizcaya have single proprietorship as type of ownership and family owned. The oldest funeral industry has been in operation for 77 years. All the funeral industry have standard embalming to burial primary services. Their secondary services include Chapel with Wi-Fi, flowers, and lapida (tombstone). Their marketing platforms include Facebook Page, Word-of-mouth, Signage and Personal Selling. They work harmoniously with their linkages like their business suppliers.

In terms of financial performance, as to liquidity, all the funeral businesses have the ability to pay all short-term obligations on-time. Because they are liquid, the funeral businesses are capable of managing their finances without depending upon creditors for loans. They have very low debt-to-assets ratios which indicates the industries exceed their total amount of debts; therefore, the industries enjoy more financial flexibility which can be a factor to expand more aggressively since they do not need to spend a lot of money paying down debts. As to Efficiency Ratio (Asset Turnover ratio), the funeral businesses have good total assets that are able to produce enough revenues at the end of the year. As to Profitability, all the funeral businesses are efficiently handling all available resources on the operating results of the business. The Profitability Ratios used

show the effectiveness of the funeral business operations. Because they are liquid, cash are utilized at a favorable level. The level of profitability is also good.

The factors of good financial performance of the funeral industry towards competitive advantage conclude that, under the Porter's Five Forces, the bargaining power of consumers is very dynamic and also depends on the flexibility of bargaining approach; therefore, funeral businesses within the Province tend to lower their prices to catch more customers. All the Funeral businesses have strong working relationship with their own respective suppliers of coffins, flowers, printing service providers, and tombstone because they already built a long term business relationship, trust, and loyalty. As to mortuary supplies, substitutes are not yet considered as potential development for substitute products. Potential competitors have difficulty entering the industry because it required much capital and background and passion in handling dead bodies. Moreover, in the compliance of the different laws related to funeral business, all Funeral businesses within Nueva Vizcaya are all competitors considering customers can avail services from any of the funeral services. The funeral businesses also offer funeral benefits to all their employees and also funeral promos for walk-in customers. The funeral businesses amidst pandemic and other external or internal factors may not be greatly affected in their business operations and will not be a factor for future business closure. In terms of PESTLE, under political factors, there were no political affair involved in the operations where the business is situated. Moreover, the Local Government Units extend support by shouldering other expenses of the bereaved family and protect from politicking. Under Economic factors, poverty is not a hindrance in availing funeral services because it is a need. Inflation limits the purchasing power of the consumers; nevertheless, they will still avail of the services. Poverty, inflation, and other economic and market conditions seem almost have not affect the prices of coffins and medicines for the past five years. Under social factors, cultural, norms and religious beliefs affect the purchase of funeral services, though some minority groups have already been encouraged to follow the modern and legal methods of funeral processes. Under technological factors, there are yet many upgrades to be done as far as technological advances are concerned. No automation for the traditional service can replace it as of today. Improving business technology processes increases productivity in the operations. Career attitudes of customers affect the funeral business' profitability by providing information and suggestions on how to improve their services. Under environmental factors, natural phenomenon such as pandemic, weather conditions, and climate change do not greatly affect the funeral business operations because death is inevitable. Under legal factors, being in operation legally ensures the legitimacy of the funeral industry as a legal entity to make profit and pay taxes. Further, it ensures compliance with legal standards for bookkeeping and accounting. This establishes that the funeral industry is paying taxes, employees are covered under adequate insurance, and the business is reporting income to the government. Also, it established consumer trust when a funeral industry is legally operating. A legally operating funeral industry also makes one eligible to receive supplier discounts that one would not normally receive as an unregistered operation.

The challenges of the funeral industry include adherence with the government laws and regulations, inflation, flexibility in the deeply ingrained culture, varied traditions,

beliefs and values, additional secondary services to combat trend, natural calamities and phenomena, and mandated business permits and licenses.

The “Futures Thinking model” anticipates changes and it considers the complexity of the vast internal and external factors that can influence the outcome of a decision and to stay competitive, as in the case of the funeral industry in this study.

Recommendations

The following recommendations were formulated in conformity with the findings and conclusions made:

1. The funeral industry must have a service trademark and commitment to provide family funeral care and services with compassion and understanding to its clients giving meaning to their loss through personalized memorial tributes that truly reflect and celebrate the lives of those who have passed on to eternal life. They should also have testimonials that they have been privileged to have celebrated the lives of distinguished personages as means of advertisements.

2. The funeral industry enjoys financial flexibilities and business sustainability. Since they are very liquid and efficient, it is a determining factor for future research to expand for a new service such as Crematorium Package and upgrading their services. This serves as an alternative option to lessen the cost of memorial services. The funeral industry’s attractiveness is a key factor for investors to help them expand their value chain. Therefore, the investors will feel confident that the funeral industry will grow and make a return on their investment.

3. Transition from traditional funeral service to contemporary funeral service is highly recommended. It is also recommended that funeral industry in Nueva Vizcaya must purchase freezer necessary for soft embalming services to make the bodies more ‘lifelike’ and better suited for contemporary funeral service because the cadaver may be viewed in an open coffin. Also, themed funerals attract more customers with customized preferences for their departed family member. These meaningful occasions with personalized music, a personalized eulogy, symbols, gathering together, and inviting people to participate occasions using symbolic actions usually chosen by the deceased to reflect himself. Innovation of services during the pandemic is recommended. During pandemic and future natural phenomena, the funeral industry should offer individualized services that need emotional considerations from the services other than the traditional services to have a dignified burial. The potential rise of crematorium is an element of contemporary funerals that include themed funeral and its “novelty” for Chinese funeral, Indian funeral, and Muslims funeral to have a respectful funeral based on their respective culture and practices. Furthermore, there must be linkages that require partnership between the business parties. Partner agencies may include Insurance and Mortuary Plan companies and private cemeteries because having strong linkages can promote

business efficiency, profit growth, technological advancements, great potential to increase economic opportunity, and managerial capabilities.

4. As a funeral industry, marketing strategies and practices can significantly improve their performance and financial ability. The goal of social media marketing efforts is to engage prospective buyers so they react to and share the information to others. The funeral industry must have new marketing strategies that take advantage of the competitors' weaknesses like 24-hour active Messenger status for inquiry and Facebook page which includes images and prices of packages offered.

5. The proposed "Futures Thinking Model" for the funeral industry would be a tool for a re-engineered service of funeral industry in a direction where they want to, be understood and valued by consumers, and where profitability would increase.

Compliance with Ethical Standards

This study is approved by the Saint Mary's University Research Ethics Board (SMUREB) at Saint Mary's University, Ponce Street, DMM, Bayombong, Nueva Vizcaya with cellphone number: 09177053041 and email: reb@smu.edu.ph.

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-Monette

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HEALTH LITERACY ON HYPERTENSION AND DIABETES MELLITUS: A COMPARATIVE STUDY

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ABSTRACT

This comparative study explores the health literacy of participants with hypertension and diabetes mellitus in barangays Patrocinio and Dela Paz, Cortes, Bohol, focusing on demographic profiles and health literacy dimensions. Utilizing a quantitative comparative research design, data was collected through a self-made questionnaire. The study aimed to address specific research questions regarding demographic profiles, health literacy levels, significant differences in health literacy based on demographic factors, and recommendations based on findings. Findings reveal that while participants in both barangays displayed positive functional, communication, and analysis health literacy regarding hypertension and diabetes mellitus, challenges were observed in reading health literacy. Significant differences were noted in health literacy levels, particularly in barangay Dela Paz, related to education and income levels. Recommendations include tailored health education programs, interventions to enhance reading health literacy, strengthening communication skills, addressing socioeconomic disparities, targeted interventions for analysis health literacy, and continued monitoring and evaluation. These findings highlight the importance of addressing demographic variations and socioeconomic disparities in health literacy to promote better health outcomes in the community. Efforts to enhance health literacy should be tailored to meet the specific needs of participants, focusing on accessibility, comprehension, and empowerment in managing health conditions effectively. Continued monitoring and evaluation are essential for tracking progress and refining interventions to address emerging needs in promoting health literacy and improving health outcomes.

Keywords: *Demographic profiles, Diabetes mellitus, Health literacy, Hypertension, Monitoring and evaluation, Socioeconomic disparities*

INTRODUCTION

Health literacy is the ability to get and process health information or services to reach an appropriate health decision. A very important determinant of the client's ability to health self-care. Health maintenance, to at least functioning level, demands a general health literacy skill. These may include seeking treatment, interacting with the health care providers and navigating health care services available in the community. Health literacy helps understand how our body works and how lifestyle prevents or promotes morbidity. It affords the people the ability to develop skills to decide for the betterment of one's health as well as of the family.

Health literacy includes print literacy, oral literacy, numeracy skills , functional literacy, analysis literacy and the ability to use this information as a functioning health care consumer. Print literacy is needed to understand most of the education offered to the clients. The client's ability to communicate with the health care providers on their understanding, needs, concerns, and issue depends on the client's oral literacy. Numeracy literacy is needed in determining medicine calibration, dosage, and timing. The previously mentioned literacies will facilitate the client's functional literacy in seeking, analyzing, and using this information for self-care (Westlake, et al., 2013).

Health care consumers obtain most of health information from their engagement with the health care providers, health promotion advertisements, and various forms of health communications common in the community. This information is relied heavily in maintaining health of the families and the communities in general (Nielsen-Bohlman, et al., 2004). Thus, awareness of client's health literacy enables the health providers to make a tailored fit communication engagement with the clients, especially that health and health care services has spread outside the health care system. In a study conducted among the 402 hypertensive patients, ninety-two percent (92%) of patients having an adequate level of literacy knew that 160/100 mmHg blood pressure reading was high. While of the 114 patients diagnosed with diabetes, ninety-four percent (94%) of diabetic clients with functional health literacy were aware of the hypoglycemia symptoms. In one study, the result showed a persistent connection between low health literacy and poorer knowledge in diabetes self-care related management and were also true in cardiovascular and human immunodeficiency diseases (Laura Mackey et al., 2016). From the abovementioned studies, it can be deduced that low health literacy may influence negatively one's behavior in developing health management skills, thus, low health literacy is a legitimate health concern.

Another study revealed that clients with lower and adequate literacy were all interested in making medical decision. However, the big difference was their ability to ask medical questions. Clients with low literacy showed a lower medical questioning ability. (Aboumatar et al., 2013).

Filipinos' adherence to medication against heart and vascular diseases was reported to be as low as 66%, making heart and vascular diseases the leading causes of mortality

(Guituerez and Sakubumrungsil, 2021). In the province of Bohol, hypertension figures consistently within the top 5 causes of morbidity despite its decreasing incidence from the year 2013 and 2014 with 15,392 and 13, 922 incidences respectively. In the year 2015, hypertension total number of cases is 39,922 with morbidity rate of 2,555.69 and it ranked 2nd and 3rd in morbidity incidence in both females and males, respectively (PHO - Bohol, 2018). Although diabetes mellitus is not among the top ten morbidity diseases in the province of Bohol, still the data showed an increasing morbidity incidence. In 2013 and 2014, the total number of diabetes mellitus cases is 1,473 and 1,886 respectively, with morbidity rate of 113.03 in both years. In 2015, diabetes total number of cases is 2,382 with morbidity rate of 181.11. However, it increased by 50% in the year 2016. The total number of diabetes cases in this year is 4,695 with a morbidity rate of 353.72 (DOH - Bohol, 2018).

This study focused on health literacy of the participants having hypertension and diabetes. Particularly of the respondents' functional, reading, communication and analysis health literacy. This study showed the health literacy of the participants from barangay Dela Paz, which Holy Name University College of Nursing (HNU-CHS) had an immersion under the Community Health Nursing exposure, and in barangay Patrocinio, where the newly started immersion was halted due to the recent pandemic.

Research Questions

The purpose of this study was to compare the health literacy of the participants with hypertension and diabetes mellitus and specifically answer these questions:

1. What is the demographic profile of barangays Patrocinio and Dela Paz, Cortes, Bohol in terms of the following:
    1.1 Sex;
    1.2 Age;
    1.3 Education;
    1.4 Socio-economic status; and
    1.5 Health Condition?
2. What is the health literacy of the participants in terms of their:
    2.1 functional literacy;
    2.2 reading literacy;
    2.3 communicative literacy; and
    2.4 analysis literacy?
3. Is there a significant difference in the participants' health literacy in terms of their demographic profile?
4. What recommendations can be proposed based on the findings of the study?

METHODOLOGY

This section focused on the methodology that was utilized in the conduct of the study. This also outlined the research design, the procedure that was followed, the

process of collecting the data and the analysis. During the collection process, the ethical consideration was also discussed.

Research Design

The study was a quantitative comparative research design comparing the health literacy of the participants and its relation to their demographic profile objectively through a numerical representation.

Research Environment

The study was conducted in barangays Dela Paz and Patrocinio, Cortes, Bohol. Cortes is a 5th class municipality based on the annual ranking of both cities and municipalities competitive index. Dela Paz is approximately 7.0 kilometers from Tagbilaran City and Patrocinio is 16.9 kilometers away. No such research in this nature has been done yet in both barangays. Barangay Dela Paz was the area of Community Health Nursing exposure of Holy Name University College of Health Sciences. While barangay Patrocinio of the same municipality was also an area of the mentioned exposure but was immediately stopped because of the pandemic.

Research Participants

The chosen participants of barangays Patrocinio and Dela Paz, Cortes, Bohol were the hypertensive and diabetic residents listed in Cortes Rural Health Office conferred by the respective Barangay Health Units personnel and who are still residing in the barangay and are still able and coherent. In barangay Patrocinio, the participants of the study were 28 solely hypertensive residents, 2 purely diabetic and 11 residents with hypertension and diabetes mellitus. This number was obtained after a calculation which yielded a 95% confidence level and 5% margin error from total population of 30 solely hypertensive, 2 purely diabetic and 11 residents having both conditions. Barangay Patrocinio have a total population of 855 residents (PSA, 2020). In barangay Dela Paz, the participants of the study were 41 solely hypertensive residents, 3 purely diabetic and 6 with hypertension and diabetes mellitus. This number was obtained after a calculation which yielded a 95% confidence level and 5% margin of error from a total population of 50 solely hypertensive, 3 pure diabetic and 6 residents with both conditions. Barangay Dela Paz have a total population of 2,948 residents (PSA, 2020).

Research Instrument

The research instrument was a self-made questionnaire based on the concept of S- Test of Functional Health Literacy of Adults or S-TOFHLA (Parker, Baker, et al., 1995). And as cited by Emtekær Hæsum, L. K., Ehlers, L., & Hejlesen, O. K., 2015, Don Nutbeam divide S-TOFHLA into functional level, interactive level, and critical level.

Based on the above research, the undersigned researcher further made more divisions to make it a more simplified survey questionnaire without deviating from the concepts of the above-mentioned studies. However, numeracy and writing literacy was

not included in the study. The questionnaire Health Literacy on Hypertension and Diabetes Mellitus a Comparative study had two (2) parts. The demographic profile of the participants was the first part which included the respondent's sex, age, educational attainment, economic status, and health condition.

The second part covered the participants' health literacy and is divided into four subparts. The first subpart was the functional literacy. This part covered the participants' awareness related to the DOH program against hypertension and diabetes mellitus, sources of health information, healthy lifestyle practices information. This part also included the participants participation to the activities related to the DOH healthy lifestyle program and the actual engagement of the healthy lifestyle practices such as accessing the hypertension and diabetes mellitus medications and visits to health center for consultation.

The second subpart was questions related to the participants' reading literacy. In this study, the reading literacy refer to the factors that influenced the participants' capability to read and understand health instructions or information. These included the font size of the written health information or instructions, the used of words unknown to the participants, information that were hard to comprehend, the need to spent a longer time to read and understand the instructions or information and the need for other person to read and understand the instructions or information.

The third subpart assessed the participants' communication health literacy. These included the participants' actual sources of health information, ability to acquire the desired information, understanding of the information obtained, expression of ideas related to hypertension and diabetes mellitus, application of the obtained health information, the used of remote ways for health consultation such as telephone or cellphone and the used of social media platform for consultation.

The last part was the participants' analytical health literacy. This part assessed how they processed the information for better use. These included the participants' ability to weigh the information that were best applicable for their conditions, if they considered the credibility and veracity of the obtained information, if the collected information were used as the basis of their decisions and if they used the information in managing their conditions.

The Likert scale was used to determine the participants' agreeability with the statement: 1.00 - 1.80 = Strongly Disagreed; 1.81 - 2.60 = Disagreed, 2.61 - 3.40 =
Doubtful; 3.41 - 4.20 = Agreed; 4.21 - 5.00 = Strongly Agreed.

The questionnaire for Health Literacy on Hypertension and Diabetes Mellitus A Comparative Study was validated through pilot-testing on 30 respondents from 3 barangays. The participants subjected for pilot-testing were not research participants nor residing in the research locale. The result was then validated by a statistician as to the questionnaire's reliability using Cronbach's Alpha N obtaining a result of 0.946, a high degree of reliability. The survey questionnaire was in Cebuano language.

RESULTS

Table 1. Participants' Demographic Profile

Demographic	Patrocinio		Dela Paz	
Sex	Frequency	Percent	Frequency	Percent
Male	19	46	20	40.0
Female	22	54	30	60.0
Total	**41**	**100.0**	**50**	**100.0**
Age	Frequency	Percent	Frequency	Percent
28 - 35	0	0	2	4.0
36 – 43	2	5	3	6.0
44 - 51	10	24	6	12.0
52 - 59	8	20	13	26.0
60 and above	21	51	26	52.0
Total	**41**	**100.0**	**50**	**100.0**
Education	Frequency	Percent	Frequency	Percent
None	0	0	2	4.0
Elementary	21	51	20	40.0
High School	16	39	15	30.0
College	4	10	12	24.0
Postgraduate	0	0	1	2.0
Total	**41**	**100.0**	**50**	**100.0**
Income Per Month	Frequency	Percent	Frequency	Percent
Below ₱ 5,000	29	71	39	78.0
₱ 5,001.00 - 10,000.00	7	17	9	18.0
₱ 10,001.00 - 15,000.00	4	10	2	4.0
₱ 15,001.00 - 20,000.00	1	2	0	0
₱ 20,001.00 & more	0	0	0	0
Total	**41**	**100.0**	**50**	**100.0**

Demographic	Patrocinio		Dela Paz	
Sex	Frequency	Percent	Frequency	Percent
Male	19	46	20	40.0
Female	22	54	30	60.0
Total	**41**	**100.0**	**50**	**100.0**
Age	Frequency	Percent	Frequency	Percent
28 - 35	0	0	2	4.0
36 – 43	2	5	3	6.0
44 - 51	10	24	6	12.0
52 - 59	8	20	13	26.0
60 and above	21	51	26	52.0
Health Condition	Frequency	Percent	Frequency	Percent
Hypertension only	28	68	41	82.0
Diabetes mellitus only	2	5	3	6.0
Hypertension and diabetes mellitus	11	27	6	12.0
Total	**41**	**100.0**	**50**	**100.0**

Table 2. Participants' Functional Health Literacy

Functional Health Literacy	Patrocinio		Dela Paz	
	Mean	**Qualitative Description**	**Mean**	**Qualitative Description**
Awareness				
Since being diagnosed with diabetes mellitus or hypertension or both, I became aware of the Healthy Lifestyle campaign of the DOH through its health workers, such as: **1.1.** Diet planning (Pinggang Pinoy)	4.37	Strongly Agree	4.12	Agree
1.2. Exercise	4.34	Strongly Agree	4.14	Agree
1.3. Smoke cessation and avoidance of the second-hand smokers.	4.34	Strongly Agree	4.22	Strongly Agree
2. I accessed the Healthy Lifestyle (HL) information of the Department Health through social media (facebook), TV, radio, internet and reading materials in the municipal health center.	3.34	Doubtful	3.74	Agree
3. I accessed the Healthy Lifestyle (HL) Information through the student nurses.	3.33	Doubtful	3.68	Agree
4. My awareness and consciousness of healthy lifestyle such as healthy diet and exercise increases.	4.02	Agree	4.08	Agree
Overall	**3.95**	**Agree**	**3.99**	**Agree**
	Patrocinio		**Dela Paz**	

Functional Health Literacy	Mean	Qualitative Description	Mean	Qualitative Description
Participation				
I participated in the healthy lifestyle activities promoted/conducted by the municipal health center personnel, such as: **5.1**. Diet planning (Pinggang Pinoy)	4.34	Strongly Agree	4.14	Agree
5.2. Exercise	4.37	Strongly Agree	4.12	Agree
5.3. Smoke cessation and avoidance of the second-hand smokers.	4.44	Strongly Agree	4.16	Agree
Overall	**4.38**	**Strongly Agree**	**4.14**	**Agree**
Practice				
6. I availed the low-cost medications for diabetes mellitus like metformin in the municipal health center.	4.00	Agree	3.33	Doubtful
7. I availed the low-cost medications for diabetes mellitus like metformin not from the municipal health center.	3.00	Doubtful	3.67	Agree
8. I availed the low-cost anti-hypertensive medications like losartan and amlodipine in the municipal health center.	3.64	Agree	3.69	Agree
9. I availed the low-cost anti-hypertensive medications like losartan and amlodipine **not** from the municipal health center.	3.82	Agree	3.90	Agree
10. I availed the low-cost medications for diabetes mellitus (metformin) and hypertension (losartan and amlodipine) in the municipal health center.	3.27	Doubtful	4.00	Agree
11. I availed the low-cost medications for diabetes mellitus (metformin) and hypertension (losartan and amlodipine) not from the municipal health center.	3.27	Doubtful	3.80	Agree
12. I practice the activities related to healthy lifestyle thought by the municipal health center personnel.	3.61	Agree	3.88	Agree

Functional Health Literacy	Patrocinio		Dela Paz	
Practice	**Mean**	**Qualitative Description**	**Mean**	**Qualitative Description**
13. I practice the activities related to healthy lifestyle thought by the student's nurses	3.39	Doubtful	3.86	Agree
14. I sought health consultation in the municipal health center.	3.56	Agree	3.52	Agree
15. I sought health consultation **not** in the municipal health center.	3.00	Doubtful	3.72	Agree
Overall	**3.45**	**Agree**	**3.73**	**Agree**
Overall Total	**3.92**	**Agree**	**3.95**	**Agree**

Interval	**Qualitative Description**
1.00 – 1.80	Strongly Disagree
1.81 – 2.60	Disagree
2.61 – 3.40	Doubtful
3.41 – 4.20	Agree
4.21 – 5.00	Strongly Agree

In Table 2, the participants of both barangays had obtained the same agreement as to the awareness of the functional health literacy. Participants of barangays Patrocinio and Dela Paz had garnered a mean of 3.95 and 3.99 respectively, qualitatively described as agreed. As to their participation on the functional health literacy, the participants from barangay Patrocinio had obtained a higher functional health literacy, getting a mean of 4.38 which is qualitatively described as strongly agreed while the participants in barangay Dela Paz had obtained only a mean of 4.14 , qualitatively described as agreed. To the participants' practice of the functional health, both barangays had obtained the same agreement thereto. Participants of barangay Patrocinio had garnered a mean of 3.45 and for Dela Paz 3.73, both qualitatively described as agreed.

Thus, the participants of both barangays obtained a total overall mean of 3.92 and 3.95, qualitatively described as agreed. Thus, they were aware, had participated on the health programs, availed the medications and sought health consultations. Westlake et al., 2013, in their study mentioned that among others, the ability to use health information will facilitate the client's functional literacy.

Table 3. Participants' Reading Health Literacy

Reading Health Literacy	Patrocinio		Dela Paz	
	Mean	**Qualitative Description**	**Mean**	**Qualitative Description**
In reading instructions or leaflets from the municipal health center, other health practitioner and pharmacies, **1.** I found that the print was too small to read.	3.83	Agree	3.70	Agree
2. I found characters and words that I did not know.	3.71	Agree	3.68	Agree
3. I found that the content was too difficult to understand.	3.71	Agree	3.72	Agree
4. I needed a longer time to read and understand it.	3.78	Agree	3.82	Agree
5. I needed someone to help me read and understand it.	4.00	Agree	3.70	Agree
Overall	**3.80**	**Agree**	**3.72**	**Agree**

Table 3 reflects that the participants of both barangays had acquired a qualitative description of agreement to the statement pertaining to reading health literacy. The above result showed an overall mean of 3.80 for Patrocinio and 3.72 for Dela Paz, therefore, these participants did experience a degree of difficulty in reading and understanding the instructions which were impediments to improve one's overall health literacy. It is noticeable, however, that a greater number of participants from barangay Patrocinio needs somebody to read and help them understand the instructions or reading materials. This may correlate to the educational profile of Patrocinio in which 51% of the participants only had attained elementary schooling.

According to Bryant, A. 2012, health literacy as defined by the Institute of Medicine is not simply being able to read but also on the individual's capacity to process and understand the obtained health information. Simply put, it means the person's capacity to read, listen, analyze and decide in relation to one's health. In this study, the respondents of barangay Patrocinio and Dela Paz were not only asked as to the degree of their

difficulty in reading health instructions but were also asked as to whether or not they understood the printed instructions.

Table 4. Participants' Communication Health Literacy

Communication Literacy	Patrocinio		Dela Paz	
	Mean	Qualitative Description	Mean	Qualitative Description
Since being diagnosed with diabetes mellitus or hypertension or both, **1.** I have collected information from various sources.	3.54	Agree	4.00	Agree
Communication Literacy	**Patrocinio**		**Dela Paz**	
	Mean	**Qualitative Description**	**Mean**	**Qualitative Description**
2. I have extracted information I wanted related to hypertension and diabetes mellitus.	3.85	Agree	3.92	Agree
3. I have understood the obtained information.	4.00	Agree	3.92	Agree
3. I have communicated my thoughts of having diabetes mellitus to someone.	4.00	Agree	4.00	Agree
4. I have communicated my thoughts of having diabetes mellitus to someone.	4.00	Agree	4.00	Agree
5. I have communicated my thoughts of having hypertension to someone.	3.93	Agree	4.12	Agree
6. I have communicated my thoughts of having hypertension and diabetes mellitus to someone.	3.58	Agree	4.00	Agree
7. I have communicated that I applied the obtained information to my daily life.	3.83	Agree	4.02	Agree

8. I have used my phone (call and text), when consulting with a physician, nurse, midwife, BHW in the municipal health center.	3.05	Doubtful	3.66	Agree
9. I have used my phone (call and text), when consulting with a physician, nurse, or midwife not from the municipal health center.	2.85	Doubtful	3.48	Agree
10. I have used my facebook/messenger when consulting with physician, nurse, midwife, BHW in the municipal health center.	2.66	Doubtful	3.36	Doubtful
11. I have used my facebook/messenger when consulting with physician, nurse, midwife **not** from the municipal health center.	2.46	Disagree	3.30	Doubtful
Overall	**3.43**	**Agree**	**3.79**	**Agree**

Table 4 shows that the participants of both barangays came into agreement of having positively sourced, acquired, understood, and communicated their thoughts and applied the information in their daily lives. Nonetheless, the participants differ in their response as to the use of their phone, call or text, in seeking consultation from or not from the municipal physician, nurse, midwife and BHW. Respondents from Patrocinio obtained a mean of 3.05 and 2.85 in these areas which is qualitatively described as doubtful. On the other hand, participants of barangay Dela Paz had garnered a mean of 3.66 and 3.48 in these areas, qualitatively described as agreed. Thus, the participants of Dela Paz were more adaptive in utilizing their phone for call or text in communicating or contacting their health workers. This is also true to the statement referring to the use of facebook/messenger in seeking consultation from the physician, nurse and midwife not from municipal health center. Respondents from Patrocinio had disagreed on the utilization of this application having a mean of 2.46 or is qualitatively described as disagreed. On the same parameter, the respondents of barangay Dela Paz obtained a mean of 3.30, qualitatively described as doubtful. Thus, the participants of Dela Paz were more adaptive in utilizing their facebook/messenger in communicating or contacting health workers not from the municipal health center. Thus, although both barangays have a positive overall communication health literacy, it is to some degree higher among the respondents from Dela Paz.

Communication health literacy is the ability to obtain meaningful health information from different sources or forms of communication. In a study conducted by Machiko Inoue et al., 2013, the result revealed that clear client-physician communication line and critical

health literacy were independently associated with the client's understanding of diabetes self-efficacy and care. Communication line and education of clients with diabetes in primary care setting should be considered.

Table 5. Participants' Analysis Health Literacy

Analysis Health Literacy	Patrocinio		Dela Paz	
	Mean	Qualitative Description	Mean	Qualitative Description
Since being diagnosed with diabetes mellitus or hypertension or both **1.** I have considered whether the information was applicable to my situation having diabetes mellitus.	4.00	Agree	3.67	Agree
2. I have considered whether the information was applicable to my situation having hypertension.	3.93	Agree	3.93	Agree
3 I have considered whether the information was applicable to my situation having diabetes and hypertension.	4.09	Agree	4.00	Agree
4. I have considered the credibility of the source of information.	3.88	Agree	4.06	Agree
5. I have considered whether the information was valid and reliable.	3.88	Agree	3.98	Agree
6. I have collected information to make health-related decisions.	3.93	Agree	4.06	Agree
7. I have used such information to manage myself as a diabetic person.	4.50	Strongly Agree	3.67	Agree
8. I have used such information to manage myself as a hypertensive person.	4.37	Strongly Agree	4.05	Agree
9. I have used such information to manage myself as a hypertensive and diabetic person.	4.42	Strongly Agree	4.33	Agree
Overall	**4.11**	**Agree**	**3.97**	**Agree**

As reflected in Table 5, the participants of both barangays obtained a positive analysis health literacy in all 9 statements, obtaining an overall mean of 4.11 in Patrocinio and 3.97 in Dela Paz. Thus, they had analyzed and considered the credibility, validity and reliability of the information as well. However, it is noticeable that the participants of barangay Patrocinio, to some degree, have a better analysis health literacy compared to its counterpart. This is in the participants' utilization of the information to manage themselves having hypertension, diabetes or having both, obtaining a mean qualitatively described as strongly agreed.

According to Bryant, A., 2012, health literacy as defined by the Institute of Medicine is not simply being able to read but also on the individual's capacity to process and understand the obtained health information. Simply put, it is the person's capacity to read, listen, analyze and decide related to one's health. Obtaining a mean qualitatively described as agreed shows that respondents of both barangays had understood, analyzed and used the information to manage their health conditions.

Table 6. Difference of Participants' Health Literacy in Terms of their Sex

Health Literacy (Sex) t-test Independent Samples	**Patrocion**			**Dela Paz**		
	t-value	**p-value**	**Decision**	**t-value**	**p-value**	**Decision**
Functional Health Literacy	1.333	0.190	Accept H_o	0.605	0.548	Accept H_o
Reading Health Literacy	0.624	0.536	Accept H_o	0.060	0.952	Accept H_o
Communication Health Literacy	0.031	0.976	Accept H_o	0.208	0.836	Accept H_o
Analysis Health Literacy	0.526	0.602	Accept H_o	3.262	0.002	Reject H_o

As shown in the table 6, participants of both barangays had accepted the hypothesis of no signifficant difference on their functional, reading, and communication health literacy in terms of their sex. Thus, in both barangays, the participants' functional and communicative health literacy have no relationship nor did they differ as far as their sex is concerned. The same with their experience of having difficulty in reading and understanding the health materials from municipal center or pharmacy. However, this is not true to the analysis health literacy, as while Patrocinio participants accepted the hypothesis, participants in barangay Dela Paz had rejected the same.

Thus, Dela Paz shows a significant difference of the participants' analysis health literacy in terms of their sex. It is noted that 60% of the respondents from Dela Paz were women. In a study that was conducted by Dhar, S et al, 2019, which focused on groups of different ages, nativity, and gender and asked on their opinion of the specific topics,

result shows that among others, diabetes and hypertension were the primary concern and the women were more concerned about the family's health and dietary habits.

The result in Dela Paz rejecting the hypothesis in analysis health literacy in relation to sex may correlate to the study of Das, S. et al., 2017, that in knowledge of diabetes control, females at 44.4% knew more than males at 36.6%. Same with hypertension, in which 31.1% of females have knowledge about it compared to the 24.2% knowledge of its male counterpart.

Table 7. Difference of Participants' Health Literacy in Terms of their Age

Health Literacy (Age) ANOVA	Patrocinio			Dela Paz		
	F-value	p-value	Decision	F-value	p-value	Decision
Functional Health Literacy	.252	.907	Accept H_o	0.869	0.446	Accept H_o
Reading Health Literacy	1.046	.394	Accept H_o	0.167	0.918	Accept H_o
Communication Health Literacy	1.505	.217	Accept H_o	0.842	0.480	Accept H_o
Analysis Health Literacy	1.157	.342	Accept H_o	1.137	0.347	Accept H_o

Table 7 reflects that participants in both barangays had accepted the hypothesis of no significant difference of their functional, reading, communication and alaysis health literacy in relation to their age. Thus, the participants' awareness, participation of the health program and adherence to healthy practices have no relationship nor did they differ as to their age. The same is true as to their ability to collect, extract, understand and communicate infromation related to hypertension and diabetes mellitus. Likewise, their ability to consider the applicablity, credibility, validity, reliability of th information have no bearing as far as their age is concerned.

In a study of Fırat Kılıç, et al., 2023, "The Relationship Between Successful Aging and Health Literacy in Older Adults", it showed that health literacy is negatively correlated with age. Also, in a study conducted by Kozar Westmen, et al., 2019 in Northern Carolina, the result concluded that there is no significant difference between age and successful aging perception.

Table 8. Difference of Participants' Health Literacy in Terms of their Education

Health Literacy (Education) ANOVA	Patrocinio			Dela Paz		
	F-value	p-value	Decision	F-value	p-value	Decision
Functional Health Literacy	0.044	0.957	Accept H_o	3.528	0.014	Reject H_o
Reading Health Literacy	0.164	0.849	Accept H_o	3.530	0.014	Reject H_o
Communication Health Literacy	1.411	0.256	Accept H_o	2.007	0.110	Accept H_o
Analysis Health Literacy	0.955	0.394	Accept H_o	1.122	0.358	Accept H_o

Table 8 shows that while the participants in barangay Patrocinio accepted the hypothesis of no signifficant difference as to their functional, reading, communicative and analysis health literacy in relation to their education, the same is not true in barangay Dela Paz, for it rejected the hypothesis as far as to their functional and reading health literacy. Fifty six percent (56%) of the participants from Dela Paz had either attended high school, college or post-graduate school compared to only 49% of the participants from barangay Patrocinio who had either gone to high school or college. Thus, the participants of Dela Paz had experienced less burden in reading and understanding the health materials from the municipal center or from the pharmacy. This data is relavant to the study conducted by Mark V William MD et. al., 2007, which shows that ninety-two percent (92%) of the hypertensive patient with adequate level of literacy knew that 160/100 mmHg blood pressure reading was high. Functional and reading health literacy is very important in knowing health programs, sourcing health information and in engaging with the health practitioners.

The domain of information sufficiency to manage personal health actively, ability to source for appropriate information were positively associated with educational attainment. Thus, poor cognition and the lower the educational attainment is detrimental to the functional literacy on an individual. Furthermore, low education, diabetes distress and older age were detrimental in multiple health literacy domains (Chen, P. et al., 2022).

Table 9. Difference in the Health Literacy of the Participants in Terms of their Monthly Income

Health Literacy (Income per Month) ANOVA	Patrocinio			Dela Paz		
	F-value	p-value	Decision	F-value	p-value	Decision
Functional Health Literacy	0.246	0.863	Accept H_o	1.056	0.356	Accept H_o
Reading Health Literacy	0.595	0.622	Accept H_o	15.076	0.000	Reject H_o
Communication Health Literacy	0.922	0.440	Accept H_o	1.473	0.240	Accept H_o
Analysis Health Literacy	2.171	0.108	Accept H_o	1.868	0.166	Accept H_o

Table 9 shows that the particiants of both barangays accepted the hypothesis of no significant difference in their health literacy in terms of their income per month. Thus, the participants' awareness, participation of the health program and adherence to healthy practices have no relationship nor difference as far as their monthly income is concerned. The same is true as to their ability to collect, extract, understand and communicate infromation related to hypertension and diabetes mellitus. Likewise, their ability to consider the applicablity, credibility, validity, reliability of the information have no bearing as to their monthly income. However, participants from barangay Dela Paz rejected the hypothesis in terms of their reading health literacy. In barangay Dela Paz, despite their low income, 56% of the participants had gone to high school, college, or post-graduate school, thus, rejecting the hypothesis. Thus, participants of barangay Dela Paz experienced less burden in reading and understanding the health materials. As mentioned by Fırat Kılıç, et al., 2023, as the education levels increased, health literacy also increases.

Table 10. Difference of Participants' Health Literacy in Terms of their Health Condition

Health Literacy (Health Condition) Kruskal-Wallis H	Patrocinio			Dela Paz		
	Chi-Squared	p-value	Decision	Chi-Squared	p-value	Decision
Functional Health Literacy	8.522	0.014	Accept H_o	3.861	0.145	Accept H_o
Reading Health Literacy	0.414	0.813	Accept H_o	2.313	0.315	Accept H_o
Communication Health Literacy	1.041	0.496	Accept H_o	5.964	0.051	Reject H_o
Analysis Health Literacy	2.222	0.329	Accept H_o	1.270	0.530	Accept H_o

As depicted in Table 10, the participants of both barangays accepted the hypothesis of no significant difference on their health literacy in relation to their health condition, except for barangay Dela Paz which rejected the hypothesis in terms of their communication health literacy. In previous table showing results in the functional health literacy, specifically table 2, participants from Dela Paz sought consults not only from the health professionals in the municipal health center but also from health professionals not working within. Thus, in addition to their education profile, Dela Paz participants are more engaged and conversant as to their conditon. The data is in line with the study conducted by Aboumatar et al., 2013, which showed the influence of health literacy in making medical visit, healthcare participation, communication engagement during visit, and the purported visit outcomes in their ability to ask medical questions. Clients with low literacy shows a lower medical questioning ability and have limited capacity to communicate with the health care providers using patient-centered approaches of engagement. In this study, communicative health literacy refers to the respondent's ability to acquire, ask and express thoughts or ideas related to their health conditions.

Findings

Based on the results of the statiscal analysis and treatment of the gathered data, the following findings were obtained:

1. Participants Demographic Profile:
   Most of the participants of both barangays were female and majority were above 60 years of age. In barangay Patrocinio, fifty-one percent (51%) of the participants attained an elementary schooling at the very least. While in barangay Dela Paz, twenty-four percent (24%) of the participants had a college education compare to ten percent (10%) from barangay Patrocinio. For the income, majority of the participants in both barangays had a monthly income of less than ₱5,000.00. Majority of them were solely hypertensive.
2. Participants' Health Literacy:

Participants of both barangays had obtained a qualitative description of agreed for functional health literacy, which suggests that they were aware of, and had participated on activities related to the health programs, as well as had availed the medications and had sought health consultations. For reading health literacy, participants of both barangays had obtained a qualitative description of agreed which means that they had experienced a certain degree of difficulty in reading and understanding the instructions.

Likewise, participants of both barangays had obtained a qualitative description of agreed for communication health literacy which signifies that participants had extracted, collected, understood, and applied the information and had communicated their thoughts regarding their health condition to others. For analysis health literacy, the participants of both barangays had obtained a qualitative description of agreed for analysis health literacy. Thus, participants had understood, analyzed and used the information to manage their health conditions.

3. Significant Difference on the Participants Health Literacy and Demographic Profile:

Participant from barangay PatrocinIo totally accepted the hypothesis of no significant difference on hypertension and diabetes mellitus health literacy in relation to their sex, age, education, income per month and health condition. However, participants from Dela Paz rejected the hypothesis in the following: analysis health literacy in relation to their sex; functional health literacy in relation to their education; reading health literacy in relation to their education and income; and communication health literacy in relation to their health condition.

Conclusions

The findings had reflected that the participants of both barangays agreed that they had positive hypertension and diabetes melitus functional, communication, and analysis health lieracy. The health programs and activities to address the incidence of hypertension and diabetes mellitus in placed by the Department of Health as implemented by the municipal health workers of Cortes, Bohol is positively working in barangays Dela Paz and Patrocinio. The health education, the health related activities, the availability of the essential medication and services against hypertension and diabetes mellitus had led the participants to perform the healthy lifestyle and practices. This positive behavior was further supported by the available health services from the private health sectors and the student nurses. To further enhance the current good hypertension and diabetes mellitus health literacy of the participants to a wellness state, a supported program should be in place to help and support the participants to improve their reading and understanding difficulty. Also, a good remote communication lines should be established between the health providers and the participants and to teach and encourage the latter how to use the same.

Recommendations

Pursuant to the conclussion based on the findings of this study, the following recommendations are proposed:

1. Tailored Health Education Programs

Recognizing the demographic characteristics of the participants, particularly the predominance of females and individuals above 60 years of age, health education programs should be tailored to meet the specific needs of these demographic groups. Efforts should focus on providing accessible and easily understandable health information to cater to the diverse educational backgrounds observed, ranging from elementary schooling to college education.

2. Enhancing Reading Health Literacy

Given that participants in both barangays experienced difficulty in reading and understanding health instructions, interventions aimed at improving reading health literacy are imperative. This could include the development of simplified health materials, the provision of audiovisual aids, and the implementation of literacy-enhancing strategies to facilitate comprehension.

3. Strengthening Communication Skills

Despite participants demonstrating adequate communication health literacy, efforts should be made to further strengthen their communication skills regarding their health conditions. Health providers should encourage open dialogue, actively listen to participants' concerns, and foster an environment where individuals feel empowered to express their health-related needs and preferences.

4. Addressing Disparities in Education and Income

The significant differences observed in health literacy, particularly in relation to education and income levels in barangay Dela Paz, underscore the importance of addressing socioeconomic disparities. Initiatives aimed at improving access to education and economic opportunities can contribute to enhancing health literacy levels and promoting better health outcomes in the community.

5. Targeted Interventions for Analysis Health Literacy

Given the unanimous agreement on analysis health literacy among participants in both barangays, interventions should focus on further enhancing participants' abilities to understand, analyze, and utilize health information to manage their health conditions effectively. This could involve providing additional training on health data interpretation, encouraging critical thinking skills, and facilitating access to resources for informed decision-making.

6. Continued Monitoring and Evaluation

Regular monitoring and evaluation of health literacy levels and demographic profiles of participants are essential to track progress and identify areas for improvement.

Ongoing assessment can inform the development and refinement of targeted interventions to address emerging needs and challenges in promoting health literacy and improving health outcomes in the community.

Compliance with Ethical Standards

All ethical criteria were considered in conducting this study. The research topics were not sensitive nor did it place the participants and the institution at any risk. Participation was at all times voluntary. They were invited to participate by explaining to them the objectives and the informed consent of the study. After they expressed their consent and after affixing their signature or thumbmark, the questionnaire was explained to them. The participants' participated by either answering the interviewer or they themselves read and wrote their answer. They were informed of their right to withdraw at any moment without the need for an explanation. The researcher employed the appropriate measures during the interaction with the participants, in collecting data or responses, and during analyzing of the gathered data. The participants were assured on the confidentiality of their identity and answers, they were also assured that the answered questionnaires can be accessed only by the researcher or the concerned barangay health workers. The benefits of the study were also explained as described in the significance of the study. The research was in conformity to the Holy Name University Ethics Review Board (HNU-ERB) standards. Approval from the HNU-ERB was sought prior to the data collection. The researchers declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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EMIC-ETIC PERSPECTIVE ON THE V-M-O REALIZATION OF THE SCHOOL OF EDUCATION, ARELLANO UNIVERSITY- PASAY CAMPUS

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ABSTRACT

The vision, mission, and objectives (VMO) of an educational institution form the cornerstone of its operations, guiding its academic programs and initiatives. The effective realization of these statements hinges on the institution's structure and the extent to which both internal and external stakeholders understand and embrace their essence. This study aims to assess the degree of realization of the VMO statements from both an internal (EMIC) and external (ETIC) perspective, focusing on understanding behaviors and personalities. Utilizing a descriptive research design, data collection, analysis, and tabulation were conducted to capture the prevailing perspectives of the respondents. The findings indicate that the Vision-Mission-Objectives of Arellano University were either fully realized or largely realized, with no evidence suggesting a lack of realization from the EMIC-ETIC perspective. Consequently, there were no significant differences observed in the respondents' perspectives, indicating a consistent understanding and alignment with the VMO of Arellano University. However, the study highlights the need for enhanced communication and engagement to reinforce the vision and mission of the School of Education, Arellano University. It emphasizes the importance of inclusive activities involving all stakeholders and adequate funding to ensure the sustainability of these efforts.

Keywords: *emic-etic, vision, mission, objectives, academic programs*

INTRODUCTION

The vision, mission, and objectives (VMO) serve as the foundation of any educational institution. The VMO statements set the direction of the various academic programs and activities of the school.

The vision and mission are statements on the long-term view of the institution of itself and of the world within which it operates, including the fundamental purpose of its existence, its long-term role and stature, and what it does to achieve this purpose and how it would like to play its role. The program educational objectives are broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve within three to five years of graduation. These objectives are based on the needs of the program's constituencies (CMO No. 37, 2012).

The realization of the University's VMO depends in its structure and stakeholders' assimilation on its essence as the main driving force of the whole organization. It is indeed deemed necessary that both the internal and external stakeholders gain a full grasp of understanding of the University's VMO statements. According to the study of Lucero (2010), the faculty and student participants have a high level of awareness of the University Vision, as well as its perceived congruency, appreciation, agreement, involvement, and responsibility on the VMGO.

Numerous studies regarding the VMGO have been conducted in recent years. A study has shown that the stakeholders such students and professors of a university are aware of its vision, mission, goals, and objectives and that these students and professors understand and accept these statements, along with the responsibility of realizing such objectives in their own capacities (Castillo, 2014). Another study has similarly concluded that the constituents of a university are aware and keen in knowing the importance of the core principles contained in their VMGOs (Salom& Florendo, 2013). Parents/alumni and other stakeholders have a high level of awareness, acceptance, and comprehension of the university's VMGO (Manapsal, 2016).

This study determines the extent of realization of the VMO statements from the EMIC-ETIC perspective. EMIC and ETIC approaches intend to understand behavior and personality. The EMIC approach investigates how local people think. How stakeholders perceive and categorize the world, their rules for behavior, what has meaning for them. An EMIC view of culture is ultimately a perspective focus on the intrinsic cultural distinctions that are meaningful to the members of a given society, often considered to be an 'insider's' perspective. While an ETIC view of a culture is the perspective of an outsider looking in. As Vetadine (2010) emphasizes, schools are inclined to be more successful in gaining in-depth learning when leaders collaborate with workers and the community to create a clear collective educational vision.

Research Questions

To give light to the problem, the researchers sought answers to the following questions:

1. What is the extent of realization of the V-M-O from EMIC-ETIC perspective?
2. Will there be significance in their perspectives of V-M-O in case there is absence of realization of EMIC-ETIC perspective?
3. What implications can be derived from the presence/absence of realization of EMIC-ETIC perspective on the V-M-O at the School of Education of AU Pasay Campus?

METHODOLOGY

This study used descriptive design of research that includes data collecting, analyzing, and tabulating about the prevailing perspectives of the respondents. It mainly aimed to determine and examine the EMIC and ETIC perspectives of the parents and faculty members on the Vision-Mission-Objective of the School of Education, Arellano University-Jose Abad Santos Campus.

The respondents of this study were selected using non-probability sampling technique which is the convenience sampling. They are composed of 50 parents and 14 faculty members of the School of Education, AU-JAS Campus. The parent-respondents must have a child who is currently enrolled during the 1st Semester, school year 2022-2023 and presently residing in Metro Manila. The faculty-respondents are currently teaching in the college with at least 12 units of teaching load. The convenience sampling was used because of the ease of availability of the sample in the case of parent-respondents.

The study utilized the VMO Assessment Tool of Arellano University. It is composed of 25-item key result areas or indicators of the study that determine the EMIC and ETIC perspective of the parents and faculty members on the Vision-Mission-Objective of the School of Education.

To answer specific questions, the researchers used statistical formulas as follows:

Weighted mean – this was used to determine the extent of realization of the V-M-O from EMIC-ETIC Perspective.

T-test will be used to test if significant difference exists in case there is absence of realization of EMIC-ETIC Perspective.

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RESULTS

Table 1

Extent of Realization of the V-M-O from EMIC-ETIC Perspective

KEY RESULTS AREAS/INDICATORS The VMO of the School of Education:	Faculty		Parent		Total	
	WM	Description	WM	Description	WM	Description
1. Inculcates nationalism. (Paghubog ng nasyonalismo.)	3.73	Fully Realized	3.08	Realized	3.41	Realized
2. Promotes ethical leadership. (Pagpapaangat ng Etikal na Pamumuno.)	3.82	Fully Realized	3.00	Realized	3.41	Realized
3. Promotes inclusive education. (Pagtatanghal ng Ingklusibong Edukasyon.)	3.82	Fully Realized	3.13	Realized	3.48	Realized
4. Provides relevant and pragmatic knowledge and skill to adopt with local and global issues and trends. (Pagbibigay ng kahalagahan at pragmatikang kaalaman at kasanayan upang maiangkop sa lokal at global na isyung napapanahon.)	3.45	Realized	3.17	Realized	3.31	Realized
5. Promotes local and regional collaborations. (Pagbabatid ng lokal at global na kolaborasyon.)	3.45	Realized	2.79	Realized	3.12	Realized
6. Promotes peace and respect for human rights. (Pagtatanghal ng kapayapaan at paggalang sa karapatang pantao.)	3.82	Fully Realized	3.17	Realized	3.50	Fully Realized
7. Promotes concern for the natural environment. (Paghahatid kaalaman sa pagmamalasakit sa kalikasan at kapaligiran.)	3.64	Fully Realized	3.29	Realized	3.47	Realized
8. Reflects the teaching of desirable values for community building. (Paglilimi sa pagtuturo ng karapat-dapat na pagpapahalaga sa pabuo ng lipunan.)	3.82	Fully Realized	3.29	Realized	3.59	Fully Realized
9. Integrates familial and community knowledge and values in the reformulation of the curriculum. (Isinasama ang karunungang pang-pamilya at panlipunan at pagpapahalaga sa pagbuo ng kurikulum.)	3.82	Fully Realized	3.08	Realized	3.45	Realized
10. Reflects tolerance of diverse views, beliefs, genders, interests, and experiences of stakeholders. (Sinasalamin ang pagpaparaya ng magkakaibang pananaw, paniniwala, kasarian, at karanasan ng mga stakeholder/kasapi.)	3.73	Fully Realized	3.04	Realized	3.39	Realized
11. Promotes school-community partnership. (Nagtatanghal ng partnersyip ng paaralan at komunidad.)	3.73	Fully Realized	3.08	Realized	3.39	Realized
12. Develops one's capacity to participate in a democratic community. (Pagpapaunlad sa kakayahan upang makilahok sa isang malayang lipunan.)	3.73	Fully Realized	3.09	Realized	3.41	Realized
13. Inculcates sense of pride in one's alma mater. (Pagpapahalaga ng pagbibigay-papuri/pagmamalaki sa Alma Mater.)	3.73	Fully Realized	3.38	Realized	3.56	Fully Realized
14. Strengthens spirit of collective identity and solidarity.	3.82	Fully Realized	3.29	Realized	3.56	Fully Realized

(Pagpapalakas sa diwa ng kolektibong pag-kakakilanlan at pagkakaisa.)						
15. Facilitates collective decision making. (Pinapagana ang kolektibong paggawa ng desisyon.)	3.55	Fully Realized	2.96	Realized	3.26	Realized
16. Implements culturally sensitive curriculum. (Nagpapatupad ng kurikulum na sensitibo sa kultura.)	3.64	Fully Realized	3.08	Realized	3.36	Realized
17. Provides opportunities for personal and professional development. (Naglalaan ng oportunidad sa pagpapaunlad ng personal at propesyonal na aspeto.)	3.73	Fully Realized	3.08	Realized	3.41	Realized
18. Affirms one's self worth and dignity. (Pinagtitibay ang halaga ng sarili at dignidad ng isang tao.)	3.82	Fully Realized	3.25	Realized	3.54	Fully Realized
19. Reflects the needs, values, experiences, and aspirations of stakeholders. (Sinasalamin ang mga pangangailangan, halaga, karanasan, at adhikain ng mga stakeholder/kasapi.)	3.64	Fully Realized	3.04	Realized	3.34	Realized
20. Instills institutional values to strengthen one's disposition. (Inilalagay sa isipan ang pag-uugaling institusyunal upang palakasin ang sariling disposisyon.)	3.73	Fully Realized	2.96	Realized	3.35	Realized
21. Provides good quality teaching and learning for its students. (Pagbibigay ng kalidad na pagtuturo at pagkatuto para sa mga mag-aaral.)	3.64	Fully Realized	3.00	Realized	3.32	Realized
22. Stirs personal and collective interest to produce knowledge and share innovations. (Paglalahok ng personal at kolektibong interes upang magbunga ng karunungan at maigting na inobasyon.)	3.55	Fully Realized	3.00	Realized	3.28	Realized
23. Develops entrepreneurial values, knowledge, and skills. (Bumubuo ng entreprenyurnal na pagpapahalaga, karunungan at kasanayan)	3.73	Fully Realized	3.21	Realized	3.47	Realized
24. Develops research values, knowledge, and skills. (Paghuhubog ng pagpapahalaga sa pananaliksik, karunungan/kaalaman at kasanayan)	3.64	Fully Realized	3.25	Realized	3.45	Realized
25. Develops critical knowledge for social advocacy and participation. (Bumubuo ng kritikal na kaalaman para sa panlipunang adbokasiya at pakikilahok)	3.73	Fully Realized	3.21	Realized	3.47	Realized
GRAND WEIGHTED MEAN	**3.70**	Fully Realized	**3.12**	Realized	**3.41**	Realized

DISCUSSION

An analysis of the data revealed that the V-M-O was fully realized as evaluated by the teachers with a grand weighted mean of 3.70. This shows that the teachers believed that the V-M-O promotes ethical leadership, inclusive education and peace and respect for human rights as shown by the computed weighted mean of 3.82. Likewise, the teachers were aware that the school reflects the teaching of desirable values for

community building as confirmed by the weighted mean of 3.82 and interpreted as fully realized. According to teachers, it is can be seen in the Arellano University core values which are competence, humility, integrity, equity, fortitude and stewardship. They added that these values were incorporated in the curriculum and they also include it in their lessons whenever possible. The school was also strong in terms of promoting school-community partnership according to teachers as revealed by the computed weighted mean of 3.73 and interpreted as fully realized. The teachers said that Arellano University is always participating in different community outreach program such as Bamboo planting in Pangil, Laguna, carabao propagation in San Miguel, Bulacan, and other community programs in adopted barangays in Pasay City and Cavite.

A second look from the table revealed that the V-M-O of Arellano University was realized as shown by the grand weighted mean of 3.12 based on the evaluation of the parents. Inculcates sense of pride in one's Alma mater got the highest weighted mean of 3.29 interpreted as realized. The parents said that their children were very proud of their school which is Arellano University. According to the data, the parents assessed that the school realized the promotion of concern for the natural environment (WM = 3.29), reflects the teaching of desirable values for community building (WM = 3.29), and strengthens spirit of collective identity and solidarity (WM = 3.29). All these items according to them were transpired in the V-M-O of School of Education, Arellano University.

Generally, the V-M-O of School of Education, Arellano University was realized as shown by the total grand weighted mean of 3.42. Further analysis of the data revealed that teaching of desirable values for community building got the highest total weighted mean of 3.59, interpreted as fully realized. This was followed by inculcating sense of pride in one's Alma mater and strengthening spirit of collective identity and solidarity which both got the total weighted mean of 3.56. Similarly, affirms one's self worth and dignity (WM = 3.54) and promotes peace and respect for human rights (WM = 3.50) were also rated as fully realized.

The data shows that both faculty and teachers were aware that the items listed above were all present in the Vision-Mission-Objectives of Arellano University.

According to the findings of the preceding study, university stakeholders, such as students and professors, are aware of the university's vision, mission, goals, and objectives, and that these students and professors understand and accept these statements, as well as the responsibility for realizing such objectives in their own capacities (Castillo, 2014). Another study found that university constituents are aware of and interested in the basic ideas presented in their VMGOs (Salom& Florendo, 2013). Parents/alumnae and other stakeholders have clearly demonstrated a high degree of awareness, acceptance, and understanding of the university's VMGO (Manapsal, 2016).

Conclusions

The Vision-Mission-Objectives of Arellano University was either fully realized or realized and there was no evidence that there is an absence of realization of this V-M-O in the EMIC-ETIC perspective. Hence, there is no difference in the respondents' perspective since there was no evidence that there is an absence of the items in V-M-O of Arellano University.

Recommendations

Although, the presence of realization of EMIC-ETIC perspective on the V-M-O of the School of Education, Arellano University was noted from the results of this study, the following recommendations which were culled from the answers of the respondents in the open-ended questions will be considered to improve its services to the clientele:

1) The university should be able to communicate and authorize its vision and mission through activities that shall involve all stakeholders. These activities shall be funded well to ensure sustainability;

2) The University needs to make sure that all their facilities are in good shape and maintain cleanliness and order in the school grounds;

3) There is no unity with other students who come from different departments. Some programs/activities should be done where all first-year students need to attend so that they may be familiarized with one another and what courses can be found here;

4) Feedback from the stakeholders on the services of different offices must be provided;

5) Since we are in the 21st century and we have 21st century learners/students, we need to be more innovative. Let the student experience how innovations and technologies will help them to become more competitive outside the school; and

6) The university can improve its community service by intensifying its relationship to the nearby barangay through outreach program such as feeding and gift-giving to the poor. The university had already a project of adopt a community but in a far way area. They said that charity begins at home and within reach.

Compliance with Ethical Standards

We, Dr. Marlowe Louis F. Fabunan, Dr. Joana Marie Carina M. Gabunilas, Dr. Archieval A. Rodriguez and Prof. Rosalia T. Pastrana, thus declare that all information gathered and made available in this study was received with the consent of the respondents. They were appropriately informed and given the option to withdraw from the study at any time. The respondents' anonymity was maintained, they were not subjected to any form of harm, there was no conflict of interest in the study's conduct, plagiarism was strictly

avoided, there was no bias in the interpretation of the findings, and the results were used purely for research.

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IMPACT OF PURPOSIVE READING AMONG ENGLISH MAJORS OF THE COLLEGE OF EDUCATION AT THE MINDANAO STATE UNIVERSITY – SULU

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ABSTRACT

This study assessed the impact of purposive reading among English majors of the College of Education at Mindanao State University-Sulu during the Academic Year 2023- 2024. With 100 samples taken through non-probability sampling method via purposive sampling, and with the use of weighted mean, standard deviation, t-test for independent samples, one-way ANOVA, and Pearson's r, this study revealed the following findings: 1) Student-respondents involved in this study are mostly female, within 18-19 years old, and mostly enrolled as second and third year levels; 2) On the average, there is a high extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu; 3) Generally, except for year level, variables age and gender do not significantly mediate in ways how student-respondents assessed the extent of the impact of purposive reading among English majors of the College of Education at Mindanao State University-Sulu; 4) Generally, the group of student-respondents who assessed the extent of impact of purposive reading among English majors of the College of Education at Mindanao State University-Sulu in terms of *evaluation* as ***Most of the Time*** is probably the same group of student-respondents who assessed the *knowledge, comprehension, application, analysis*, and *synthesis* as ***Most of the Time***, respectively; and 5) This study seems to support the Reader Response Theory which stresses that readers focus on the text, finding all meaning, the value in reading materials and regarding everything else as extraneous, including readers.

KEYWORDS: *purposive reading, English majors, Reader Response Theory, Mindanao State University-Sulu*

INTRODUCTION

The world of academia and professional communication hinges upon the mastery of language, and for college students majoring in English, reading purposively emerges as a fundamental cornerstone of their educational journey. This practice holds profound implications, transcending the bounds of mere comprehension to shape their linguistic competence, purposive thinking abilities, and intellectual growth. This study serves as a gateway into the exploration of how purposive reading profoundly influences College of Education Major in English Students at Mindanao State University – Sulu, illuminating its role as a catalyst for academic excellence and personal enrichment.

Purposive reading is a deliberate and intentional practice, one that empowers students to navigate a diverse landscape of literary classics, scholarly treatises and many others. Leute (2022) states that deriving a sense of purpose from an activity also promotes a person's engagement, while continued practice promotes growth in the development of a particular skill. This exploration delves into the intricate relationship between the practice of purposive reading and its effects, shedding light on the multifaceted ways in which this seemingly simple pursuit can influence formal education.

When transactions between humans are made through writing, some instances occur when those exchanges come close to any oral conversations. And to effectively hold up their end of the conversation, purposively sifting through words, and creating meaning from what has been stated, results to inevitably collecting the meaning through the said interaction. Understanding the impact of this process and how this possibly occurs to the Language Students will help further the academicians improve the curriculum on how instructions for L1, and L2 and others.

In a study launched by Roomy (2022), he said reading with a sense of purpose is an indispensable learning skill that students need both inside and outside the classroom. Rommy (2022) added that there are significant effects of purposive reading skills on students' reading comprehension at different levels. Students viewed reading as an active dynamic process that motivated the activation of higher order thinking skills and helped students tap into their prior experiences to approach the reading materials.

The democratization and commodification of education has witnessed an increase in postgraduate education as it is one of the main sources contributing to the advancement of knowledge, technology, and innovation (Shamida and Nawi, 2021). The 21st century requires that every individual has a purposive ability to receive, process, and understand diverse information (Setiwan & Gusdian, 2021).

This study is to promote reading practices among language students, by further scrutinizing the importance of comprehension, knowledge, application, analysis and

synthesis. For these strategies encompass the relationship that is made in order to successfully comprehend through the process of reading.

Research Questions

The study assessed the impact of purposive reading among English Majors of College of Education at the Mindanao State University–Sulu. Specifically, it sought to answer to each of the following questions:

1. What is the demographic profile of student-respondents as to:
    1.1.1 age;
    1.1.2 gender; and
    1.1.3 year level?

2. What is the extent of impact of purposive reading among English Majors College of Education at Mindanao State University – Sulu in terms of:
    2.1.1 knowledge;
    2.1.2 comprehension;
    2.1.3 application;
    2.1.4 analysis;
    2.1.5 synthesis; and
    2.1.6 evaluation?

3. Is there a significant difference in the extent of impact of purposive reading among English Majors College of Education at Mindanao State University – Sulu when classified into:
    3.1.1 age;
    3.1.2 gender; and
    3.1.3 year level?

4. Is there a significant correlation among the subcategories subsumed under the impact of purposive reading among College of Education Major in English students at Mindanao State University – Sulu?

METHODOLOGY

This chapter deals with the research method that was employed in the conduct of this study. It focuses on the research design, locale, respondents of the study, sampling design, data gathering procedure, research instrument, validity and reliability, and statistical treatments of data.

Research Design

The study focused on the impact of Purposive Reading among the College of Education Major in English Students at the Mindanao State University–Sulu. The program is adapted by MSU System Learning Modality following the contextualized Commission on Higher Education Outcome Based Syllabus of the English Majors. A descriptive survey design was utilized adopting the intention to gather information from sample of the individuals regarding issues and relationships affecting a larger group known as the population, and then generalized as the total population.

Research Locale

This study was conducted in the Mindanao State University–Sulu, specifically among the College of Education Major in English students during the second semester of the school year 2023-2024.

Respondents of the Study

The research population consists of around 400 students of the English Department of the MSU-Sulu College of Education. A sample of 100 students, representing 25% of the target population.

Table 1. Distribution of samples according to the year level

Year Level	Total
1st Year	10
2nd Year	40
3rd Year	42
4th Year	8
Grand Total	**100**

Sampling Design

A purposive sampling method was employed in this study. The use of purposive sampling in this study was to ensure that representation of all the sub-categories under the profiles.

Data Gathering Procedure

The Data gathering and instrumentation process was conducted using the survey questionnaire. The survey questionnaire consisted of two sections. Section A explored the demographic variables of the learners, whereas section B incorporated 44 items that related to the learners' purposive reading practices. The survey questionnaire instrument was used to obtain data about the learners' self-perceived ability to use purposive reading strategies in the classroom. To assist the researchers to understand the learners' self-

perceived and self-rated purposive reading practices, the closed questions were prepared.

The questionnaire contained opinion statements categorized as close questions, which measured on a four-point Likert scale: (1) Never, (2) Sometimes, (3) Most of the time and (4) Always. These intensity scales were used to simplify the procedure of data processing and to obtain uniformity. Furthermore, the opinion statements were kept simple, relevant and precise so that each learner could understand. The questionnaire was distributed among the learners from the MSU-Sulu College of Education English Department intended for self-ratings on their self-perceived purposive reading ability.

The following steps were followed in the course of data gathering:

1.) A permit to administer the questionnaire was sought from the Office of the Dean of the MSU-Sulu College of Education, and the Chancellor of the said institution.
2.) The launching and administering as well as the retrieval of the questionnaire was conducted personally with utmost ethical practice by the researcher.

Research Instruments

Quantitative method was used for the analysis of the study. According to Maree (2007), quantitative research is a process that is systematic and objective in its ways of using numerical data from only a selected subgroup of a universe (or population) to generalize the findings to the universe that is being studied

To acquire genuine and relevant data for the study, a non-observational approach with a Survey Questionnaire was used as the research instrument. Each respondent answered a two-part adapted questionnaire from Anderson and Krathwohli (2001).

Survey Questionnaires (SQ) I and II are separate. SQ I dealt with respondents' personal information such as gender, age and year level addressing research question number 1. SQ II is broken down into another section which dealt reading strategies that students use, therefore addressing research question 2.

Validity and Reliability

To ensure the successful execution of the study, the researcher adapted a standardized questionnaire survey in order to evaluate different variables in purposive reading. However, to guarantee its usability applicable to the local context of the respondents, modifications were made and these were subjected to the perusal of at least two experts from the faculty members of the School of Graduate Studies of the Sulu State College. This checklist covered all types of strategies relevant to a students' academic pursuit whilst purposely reading.

Statistical Treatment of The Data

Obtaining the empirical data on the four research questions, the following statistical tools were utilized. The data gathered from the instruments were treated statistically.

1. For research problem number 1, in analyzing the data for the demographic profile of students in terms of age, gender, and year level, Frequency and Percentage were used.
2. For research problem number 2, the relativity of each variable in the impact of purposive reading were analyzed through weighted mean and standard deviation.
3. For research problem number 3, t-test for independent samples was used to compare the means between two groups for gender, whereas one-way ANOVA was used to compare the means among the strategies.
4. For research problem number 4, Pearson r was used to measure the strength and direction of the relationship between each variable, of which shall answer the inferential question: “Is there a significant correlation among the subcategories subsumed under the impact of purposive reading among College of Education Major in English Students at Mindanao State University – Sulu?”

RESULTS AND DISCUSSION

This section deals with the presentations, analyses and interpretations of results based on the data obtained for this study. Explicitly, it presents student-respondents’ demographic profiles in terms of age, gender, and year level; the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu; the significant correlation and differences in the extent of the impact of purposive reading among English majors when data are grouped according student- respondents’ demographic profile.

Based on the thorough, proper scoring and statistical treatments of data gathered for this study, the following are the presentations, analyses and interpretations of results which correspond to each of the research questions:

Table 1.1 Demographic profile of the student-respondents in terms of age

Age	Number of Students	Percent
17 years old & below	0	0
18-19 years old	80	80.0%
20 years old & above	20	20.0%
Total	**100**	**100%**

Table 1.1 presents the demographic profile of the student-respondents in terms of age. It can be gleaned from this table that out of 100 student-respondents, 80 (80.0%) are within 18-19 years old, 20 (20.0%) are within 20 years old & above, and none is within

17 years old & below. This means that more than three-fourth or great majority of the student-respondents involved in this study are within 18-19 years old. This result implies that almost all of the student-respondents involved in this study are at the ideal age range for college students.

Table 1.2 Demographic profile of the student-respondents in terms of gender

Gender	Number of Students	Percent
Male	29	29.0%
Female	71	71.0%
Total	**100**	**100%**

Table 1.2 shows the demographic profile of the student-respondents in terms of gender. It can be gleaned from this table that out of 100 student-respondents, 29 (29.0%) are male and 71 (71.0%) are female. This means that nearly three-fourth or great majority of the student-respondents involved in this study are female which is far higher in number than male respondents.

Table 1.3 Demographic profile of the student-respondents in terms of year level

Year Level	Number of Students	Percent
First Year	10	10.0%
Second Year	40	40.0%
Third Year	42	42.0%
Fourth Year	8	8.0%
Total	**100**	**100%**

Table 1.3 presents the demographic profile of the student-respondents in terms of grade level. It can be gleaned from this table that out of 100 student-respondents, 10 (10.0%) are enrolled as First Year, 40 (40.0%) are enrolled as Second Year, 42 (42.0%) are enrolled as Third Year, and 8 (8.0%) are enrolled as Fourth Year level, respectively. This result implies that student-respondents involved in this study are mostly represented by Second Year and Third Year levels.

Table 2. Extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu in terms of knowledge, comprehension, application, analysis, synthesis, and evaluation

Impact of Purposive Reading				
Knowledge		**Mean**	**S.D.**	**Rating**
1	I can remember the information from a text that I have read.	2.7800	.73278	Most of the time
2	I can identify specific terms in a text.	2.7000	.68902	Most of the time
3	I can identify main ideas in a text.	2.7800	.77303	Most of the time
4	I can identify supporting details in a text.	2.6800	.72307	Most of the time
5	I have an in-depth knowledge and can teach others.	2.5400	.74427	Most of the time
	Total Weighted Mean	**2.6960**	**.58498**	**Most of the time**

Comprehension		**Mean**	**S.D.**	**Rating**
1	I can read and understand the title of a text.	3.4000	.60302	Most of the time
2	I can quickly read through long and difficult texts, locating relevant details.	2.9600	.76436	Most of the time
3	I can describe the main ideas in a text.	2.9700	.74475	Most of the time
4	I can describe supporting details in a text.	2.8500	.72995	Most of the time
5	I can explain the meaning of words, or sentences from the context.	2.9200	.72027	Most of the time
	Total Weighted Mean	**3.0200**	**.56318**	**Most of the time**
Application		**Mean**	**S.D.**	**Rating**
1	I can predict the outcomes of an article.	2.6200	.76251	Most of the time
2	I can use the knowledge that I have when I read a text	3.0800	.74779	Most of the time
3	I can use my personal experiences to improve my understanding of a text when I read.	3.1600	.69224	Most of the time
4	I can read about an idea in a text and use it in other situations that I read about.	2.9100	.76667	Most of the time
5	I can read about an idea in a text and use it to solve problems in my own life	2.8500	.72995	Most of the time
	Total Weighted Mean	**2.9240**	**.57474**	**Most of the time**
Analysis		**Mean**	**S.D.**	**Rating**
1	When I read a text, I know the difference between a fact and an opinion	3.1300	.67652	Most of the time
2	When I read a text, I can show which points are relevant to the topic written about.	3.0200	.73828	Most of the time
3	When I read a text, I can conclude what the text is about.	2.9400	.72223	Most of the time
4	When I read a text, I can identify the reasons for certain actions in the text.	2.9400	.73608	Most of the time
5	When I read, I can separate the idea within the text into its different parts	2.8700	.73382	Most of the time
	Total Weighted Mean	**2.9800**	**.57314**	**Most of the time**
Synthesis		**Mean**	**S.D.**	**Rating**
1	I can connect the ideas within a sentence.	3.0600	.78907	Most of the time
2	I can connect the ideas between paragraphs	2.9100	.75338	Most of the time
3	I can connect ideas between different reading materials.	2.9000	.77198	Most of the time
4	I can summarize information after reading a text	3.1000	.78496	Most of the time
5	I can draw conclusion after reading a text.	3.0400	.76436	Most of the time
	Total Weighted Mean	**3.0020**	**.65843**	**Most of the time**
Evaluation		**Mean**	**S.D.**	**Rating**

1	I can decide on the trustworthiness of the information in a text.	2.9600	.72363	Most of the time
2	I can make a decision on the argument when I read.	3.0600	.76303	Most of the time
3	I can determine the strength of an idea in a text.	2.9700	.70288	Most of the time
4	I can determine the weakness of an idea in a text.	2.9500	.74366	Most of the time
5	I can determine the relevancy of an idea in a text.	3.0800	.76118	Most of the time
	Total Weighted Mean	**3.0040**	**.61364**	**Most of the time**
	Overall Total weighted Mean	**2.9337**	**.59468**	**Most of the time**

Legend: (4) 3.50 – 4.00=Always (A); (3) 2.50 – 3.49=Most of the Time (MA); (2) 1.50 – 2.49=Sometimes (S); (1) 1.00 – 1.49=Never (N)

Table 2 shows the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu in terms of Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. As shown in this table, this category obtained an overall total weighted mean score of **2.9337** with standard deviation of .59468 which is rated as **Most of the Time.** This result reveals that student- respondents implored that English majors of College of Education at Mindanao State University-Sulu when engage in purposive reading, are most of the time they tend to remember the information from a text that they have read, read and understand the title of the text, predict the outcomes of an article, know the difference between a fact and an opinion, connect the ideas within a sentence, and decide on the trustworthiness of the information in a text.

Specifically, student-respondents rated as Most of the time the following items: “I can remember the information from a text that I have read”, “I can read and understand the title of the text”, “I can predict the outcomes of an article”, “When I read a text, I know the difference between a fact and an opinion”, “I can connect the ideas within a sentence”, and “I can decide on the trustworthiness of the information in a text”.

Table 3.1 Differences in the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu when the data are classified according to age

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Knowledge	Between Groups	.006	1	.006	.019	.892	Not Significant
	Within Groups	33.872	98	.346			
	Total	33.878	99				
Comprehension	Between Groups	.123	1	.123	.384	.537	Not Significant
	Within Groups	31.277	98	.319			
	Total	31.400	99				
Application	Between Groups	.000	1	.000	.001	.972	Not Significant
	Within Groups	32.702	98	.334			
	Total	32.702	99				
Analysis	Between Groups	.063	1	.063	.189	.665	Not Significant
	Within Groups	32.457	98	.331			
	Total	32.520	99				
Synthesis	Between Groups	.026	1	.026	.058	.809	Not Significant
	Within Groups	42.894	98	.438			
	Total	42.920	99				
Evaluation	Between Groups	.102	1	.102	.270	.605	Not Significant
	Within Groups	37.176	98	.379			
	Total	37.278	99				

*Significant alpha .05

Table 3.1 presents the differences in the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu when the data are classified according to age. It can be gleaned from this table that the value of F-ratios and *P*-values of all the sub-categories subsumed under the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu are not significant at alpha .05. This means that, although student-respondents vary in age range, still they do not differ in their assessment towards the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu. This result implies that being older or within 20 years old & above may not necessarily put a student- respondent in a vantage point towards assessing the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu than those who are within 17 years old & below, and 18-19 years old, or vice versa.

Nonetheless, it is safe to say that variable age has no significant mediation in ways how student-respondents assessed the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu. Therefore, the

hypothesis which states that “There is no significant difference in the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu when data are grouped according to their demographic profile in terms of age” is accepted.

Table 3.2 Differences in the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu when the data are classified according to gender

VARIABLES	Grouping	Mean	S. D.	Mean Difference	*t*	Sig.	Description
Knowledge	Male	2.9241	.67700	.32132*	2.561	.012	Significant
	Female	2.6028	.51988				
Comprehension	Male	3.1517	.58225	.18553	1.504	.136	Not Significant
	Female	2.9662	.55031				
Application	Male	3.0483	.57235	.17504	1.388	.168	Not Significant
	Female	2.8732	.57195				
Analysis	Male	3.0966	.57724	.16416	1.304	.195	Not Significant
	Female	2.9324	.56865				
Synthesis	Male	3.1655	.70725	.23031	1.600	.113	Not Significant
	Female	2.9352	.63044				
Evaluation	Male	3.2000	.68661	.27606*	2.075	.041	Significant
	Female	2.9239	.56706				

*Significant at alpha 0.05

Table 3.2 shows the differences in the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu when the data are classified according to gender. It can be gleaned from this table that, except for “Knowledge” and “Evaluation” value of Mean Differences of all other sub-categories subsumed under the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu are not significant at alpha .05. This means that male and female student-respondents do not differ in their assessment towards the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu. This result implies that being a male student-respondent may not necessarily put him in a vantage point towards assessing the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu than his female counterpart, or vice versa. Consequently, it is safe to say that variable gender has no significant influence in the ways how student-respondents assessed the extent of the impact of purposive reading

among English majors of College of Education at Mindanao State University-Sulu Therefore, the hypothesis which states that “There is no significant difference in the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu when data are grouped according to their demographic profile in terms of gender” is accepted.

Table 3.3 Differences in the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu when the data are classified according to year level

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Knowledge	Between Groups	6.599	3	2.200	7.741*	.000	Significant
	Within Groups	27.279	96	.284			
	Total	33.878	99				
Comprehension	Between Groups	6.459	3	2.153	8.288*	.000	Significant
	Within Groups	24.941	96	.260			
	Total	31.400	99				
Application	Between Groups	5.780	3	1.927	6.870*	.000	Significant
	Within Groups	26.923	96	.280			
	Total	32.702	99				
Analysis	Between Groups	3.649	3	1.216	4.044*	.009	Significant
	Within Groups	28.871	96	.301			
	Total	32.520	99				
Synthesis	Between Groups	6.198	3	2.066	5.401*	.002	Significant
	Within Groups	36.722	96	.383			
	Total	42.920	99				
Evaluation	Between Groups	4.556	3	1.519	4.455*	.006	Significant
	Within Groups	32.722	96	.341			
	Total	37.278	99				

*Significant at alpha 0.05

Table 3.3 shows the differences in the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu when the data are classified according to year level. It can be gleaned from this table that value of F-ratios and *P*-values of all the sub-categories subsumed under the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu are indeed significant at alpha .05. This means that, the fact that student- respondents vary in year level indeed they differ in their assessment towards the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu. This result implies that being a Fourth Year level may probably put a student-respondent in a vantage point towards assessing the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu than those enrolled as First Year, Second Year, and Third Year level, vice versa.

Consequently, it is safe to say that variable year level has indeed a significant influence in the ways how student-respondents assessed the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu. Therefore, the hypothesis which states that "There is no significant difference in the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu when data are grouped according to their demographic profile in terms of year level" is rejected.

Table 3.3.1 Post Hoc Analysis: Differences in the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu when the data are classified according to year level

Dependent Variables	(I) Grouping by Year Level	(J) Grouping by Year Level	Mean Difference (I-J)	Std. Error	Sig.
Knowledge	First Year	Second Year	-.14000	.18847	.879
		Third Year	-.04571	.18757	.995
		Fourth Year	-1.01000*	.25286	.001
Comprehension	Second Year	First Year	-.11500	.18021	.919
		Third Year	.33357*	.11261	.020
		Fourth Year	-.54500*	.19741	.034
Application	First Year	Second Year	.01500	.18723	1.000
		Third Year	.20762	.18634	.682
		Fourth Year	-.71500*	.25120	.027
Analysis	Third Year	First Year	-.02667	.19296	.999
		Second Year	-.22167	.12116	.266
		Fourth Year	-.69167*	.21155	.008
Synthesis	Third Year	First Year	-.38286	.21762	.299
		Second Year	-.34286	.13664	.065
		Fourth Year	-.86786*	.23858	.002
Evaluation	Third Year	First Year	-.38571	.20543	.245
		Second Year	-.22571	.12899	.304
		Fourth Year	-.76071*	.22522	.006

* The mean difference is significant at the 0.05 level.

A Post Hoc Analysis using Tukey Test was conducted to determine which among groups classified according to year level to have different levels of mean in areas subsumed under the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu when the data are classified according to year level.

The result of the analysis which is shown in Table 3.3.1 indicates that the difference in the means of knowledge, comprehension, application, analysis, synthesis, and evaluation is obtained by way of lower group mean minus higher group mean.

On Knowledge: It shows that the group of student-respondents enrolled as Fourth Year obtained the mean difference of -1.01000* with Standard Error of .25286 and p-value of .001 which is significant at alpha=.05 over the group of student- respondents enrolled as First Year level. So, under this sub-category, no other group of student-respondents are supposed to have better ways of assessing the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu in terms of Knowledge than those student-respondents who are enrolled as Fourth Year level.

On Comprehension: It shows that the group of student-respondents enrolled as Fourth Year obtained the mean difference of -.54500* with Standard Error of
.19741 and p-value of .034 which is significant at alpha=.05 over the group of student-respondents enrolled as Second Year level. So, under this sub-category, no other group of student-respondents are supposed to have better ways of assessing the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu in terms of Comprehension than those student-respondents who are enrolled as Fourth Year level.

On Application: It shows that the group of student-respondents enrolled as Fourth Year obtained the mean difference of -.71500* with Standard Error of .25120 and p-value of .027 which is significant at alpha=.05 over the group of student- respondents enrolled as First Year level. So, under this sub-category, no other group of student-respondents are supposed to have better ways of assessing the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu in terms of Application than those student-respondents who are enrolled as Fourth Year level.

On Analysis: It shows that the group of student-respondents enrolled as Fourth Year obtained the mean difference of -.69167* with Standard Error of .21155 and p-value of .008 which is significant at alpha=.05 over the group of student- respondents enrolled as Third Year level. So, under this sub-category, no other group of student-respondents are supposed to have better ways of assessing the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu in

terms of Analysis than those student-respondents who are enrolled as Fourth Year level.

On Synthesis: It shows that the group of student-respondents enrolled as Fourth Year obtained the mean difference of -.86786* with Standard Error of .23858 and p-value of .002 which is significant at alpha=.05 over the group of student- respondents enrolled as Third Year level. So, under this sub-category, no other group of student-respondents are supposed to have better ways of assessing the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu in terms of Synthesis than those student-respondents who are enrolled as Fourth Year level.

On Evaluation: It shows that the group of student-respondents enrolled as Fourth Year obtained the mean difference of -.76071* with Standard Error of .22522 and p-value of .006 which is significant at alpha=.05 over the group of student- respondents enrolled as Third Year level. So, under this sub-category, no other group of student-respondents are supposed to have better ways of assessing the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu in terms of Evaluation than those student-respondents who are enrolled as Fourth Year level.

Table 4. Correlation among the sub-categories subsumed under the extent of impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu

Variables		Pearson r	Sig	N	Description
Dependent	**Independent**				
Evaluation	Knowledge	.633**	.000	100	High
	Comprehension	.691**	.000	100	High
	Application	.712**	.000	100	Very High
	Analysis	.723**	.000	100	Very High
	Synthesis	.800**	.000	100	Very High

*Correlation Coefficient is significant at alpha .05
Correlation Coefficient Scales Adopted from Hopkins, Will (2002): 0.0-0.1=Nearly Zero; 0.1-0.30=Low; .3-0.5 0=Moderate; .5-0.7-0=High; .7-0.9= Very High; 0.9-1=Nearly Perfect

Table 4 illustrates the correlation among the categories subsumed under the impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu in the contexts of Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. It can be gleaned from this table that the computed Pearson Correlation Coefficients (Pearson r) among these variables are indeed significant at alpha .05.

Specifically, the degrees of correlations among the sub-categories subsumed under the extent of impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu are as follows:

1) High positive correlation between Evaluation and Knowledge;

2) High positive correlation between Evaluation and Comprehension;
3) Very High positive correlation between Evaluation and Application;
4) Very High positive correlation between Evaluation and analysis; and
5) Very High positive correlation between Evaluation and Synthesis.

These results indicate that the group of student-respondents who assessed the extent of impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu in terms of evaluation as Most of the Time is probably the same group of student-respondents who assessed the Knowledge, Comprehension, Application, Analysis, and Synthesis as Most of the Time, respectively.

For the time being, it is safe to say that, generally the sub-categories subsumed under the extent of impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu is very highly correlated.

Conclusions

This study concludes the following based of the findings above:

1) Student-respondents involved in this study are adequately represented in terms of age, gender, and year level.
2) On the average, there is a high extent of the impact of purposive reading among English majors of College of Education at Mindanao State University Sulu.
3) Generally, except for year level, variables age and gender do not significantly mediate in ways how student-respondents assessed the extent of the impact of purposive reading among English majors of College of Education at Mindanao State University Sulu.
4) Generally, the group of student-respondents who assessed the extent of impact of purposive reading among English majors of College of Education at Mindanao State University-Sulu in terms of Evaluation as Most of the Time is probably the same group of student-respondents who assessed the Knowledge, Comprehension, Application, Analysis, and Synthesis as Most of the Time, respectively.
5) This study seems to support the Reader Response Theory which stresses that readers focus on the text, finding all meaning, the value in reading materials and regarding everything else as extraneous, including readers.

Recommendations

Based on the above findings and conclusions, this study forwards the following recommendations:
1) MSU-Sulu administrators may adopt the findings of this study in enhancing the institution's research database in the field of language studies.
2) Faculty of MSU-Sulu may utilize the results of this study in identifying best solution in enhancing students' reading comprehension skills.
3) College students may use the results of this study in identifying relevant issues and concerns about reading efficiencies.
3) Student-researchers in the field of language learning and teaching may replicate this study but to include other variables such as teachers' pedagogical effectiveness,

students' reading proficiency level, and students' language learning proficiency through the use of Information Communication Technology in some other avenues.

Compliance with Ethical Standards

To ensure ethical standards in research is complied, the researcher obtained an informed consent from the respondents. In addition, the researcher assured that privacy of the respondents and the data gathered are safeguarded.

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IMPLEMENTATION OF DISASTER RISK REDUCTION AND MANAGEMENT (DRRM) PROGRAM AND ACTIVITIES AMONG SCHOOLS IN THE DIVISION OF SULTAN KUDARAT

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ABSTRACT

The study aimed to assess the Implementation of the Disaster Risk Reduction and Management (DRRM) Program and Activities among schools in the Division of Sultan Kudarat along with Good governance, Risk assessment, Early warning, Knowledge building, and Awareness raising for the school year 2019-2020 among 70 teachers in Central Isulan District. The researcher used the descriptive survey method of research and use a survey questioner to gather the necessary data among respondents of the study. The result of the study on the implementation of Disaster Risk Reduction and Management along with Good Governance, Risk Assessment, Early Warning, Knowledge Building, and Awareness Raising was found to be Highly Evident among schools in the Division Sultan Kudarat.

Keywords: *Disaster Risk Reduction Management, Program, Activities, Central Isulan District, Sultan Kudarat, Philippines*

INTRODUCTION

Republic Act 10121, also known as "Philippine Disaster Risk Reduction and Management Act of 2010", acknowledges the need to “adopt a disaster risk reduction and management approach that is holistic, comprehensive, integrated, and proactive in

lessening the socio-economic and environmental impacts of disaster including climate change, and promote the involvement and participation of all sectors and all stakeholders concerned at all levels, especially in the local community." This gives a boost to the development of policies and plans, implementation of actions and measures about all aspects of disaster risk reduction management, including good governance, risk assessment and early warning, knowledge building, and awareness raising, reducing underlying risk factors, and preparedness for effective response and early recovery.

The National Disaster Risk Reduction and Management (DRRM) Plan serves as the national guide on how sustainable development can be achieved through inclusive growth while building the adaptive capacities of communities; increasing the resilience of vulnerable sectors; and optimizing disaster mitigation opportunities with the end given promoting people's welfare and security towards gender-responsive and rights-based sustainable development.

Adhering to this, the Department of Education-Sultan Kudarat Division works hard to prevent disasters from happening in the schools to make students free from any disasters. DRRM is now a part of the curriculum and is one of the major concerns of the Department to make children safe in schools from any harm that they may suffer. Now that it is a part of the curriculum, it is being taught in schools and activities accompany the said curriculum. Looking into this, the researcher will try to assess the level of awareness of the teachers and the learners in the implementation of the programs and activities on Disaster Risk Reduction and Management (DRRM).

Thus, this study draws on the implementation of the Disaster Risk Reduction and Management (DRRM) program and activities in Central Isulan District, Division of Sultan Kudarat.

Research Questions

This study aimed to assess the Implementation of the Disaster Risk Reduction and Management (DRRM) Program and Activities in the Division of Sultan Kudarat.

Specifically, it sought to answer the following questions:

1. To what extent is the implementation of Disaster Risk Reduction and Management (DRRM) in terms of a. Good governance, b. Risk assessment, c. Early warning, d. Knowledge building, and e. Awareness raising?

METHODOLOGY

The researcher used the descriptive survey method of research to the Implementation of the Disaster Risk Reduction Management Program and Activities for the School Year 2019-2020. To (Calderon and Gonzales, 2019) Descriptive survey

method of research is also known as a normative survey and it is a fact-finding study with adequate and accurate interpretation.

The data being gathered extensively all about disaster risk reduction management programs and activities. These data were taken from survey questionnaires which were made for further analysis.

The respondents of the study are the 70 teachers in Central Isulan District. The Total Complete Enumeration was used to determine the total number of respondents. Descriptive statistics was used to analyze the data gathered.

RESULTS

The result of the Good Governance shows that the total mean is 3.86 interpreted as Highly Evident. The result of the Risk Assessment shows that the total mean is 3.85 interpreted as Highly Evident. On the Early Warning, the total mean is 3.83 interpreted as Highly Evident. On the Knowledge Building, it shows the total mean is 3.97 interpreted as Highly Evident. On the Awareness Raising, it shows the total mean is 3.86 interpreted as Highly Evident.

DISCUSSION

On the extent is the implementation of Disaster Risk Reduction and Management (DRRM)

According to UNESCO (2010), preparedness plans are dynamic ventures that need to be reviewed, modified, updated, and tested regularly. Active disaster preparedness includes developing comprehensive response plans, monitoring hazards and threats, training emergency personnel, and training members of the communities at risk “to ensure the timely appropriate and effective delivery of relief”

Table 1. Summary table extent is the implementation of Disaster Risk Reduction and Management (DRRM)

Variables	Mean	Interpretation
Good Governance	3.86	Highly Evident
Risk Assessment	3.85	Highly Evident
Early Warning	3.83	Highly Evident
Knowledge Building	3.97	Highly Evident
Awareness Raising	3.86	Highly Evident
Overall Mean	**3.87**	**Highly Evident**

The tables exhibit the implementation of disaster risk reduction and management among schools in the Division of Sultan Kudarat. Interestingly, all variables were interpreted as highly evident with a computed overall mean of 3.87.

In particular, Knowledge Building got the highest mean of 3.97 which is interpreted as “Highly Evident”, followed by Good Governance and Awareness Raising got the equal computed mean of 3.86 which is interpreted as “Highly Evident”, meanwhile Early Warning got the lowest computed mean of 8.83 and Risk Assessment with a computed mean of 3.85 but it was interpreted as “Highly Evident”.

The results of the study conform with the study of Tizon (2020) that the disaster risk reduction management (DRRM) program in public schools is well implemented. Public schools are also very capable of responding to hazards in the occurrence of disasters.

In addition, there is a need to assess whether learners and educators are aware of the safety plans and are well prepared for any outbreak of disaster (Catanus, 2018). Grant (2012) stressed that disaster awareness in schools, can be incorporated in institutions through strategically posting safety rules, installing firefighting equipment, and evacuation exits, maintaining buildings, organizing seminars on disaster awareness and involving peer education, electronic and print media, action learning and using science education as a means to introduce studies of disaster risk.

Conclusions

The following conclusions are drawn based on the findings of the study.

The result of the study on the implementation of Disaster Risk Reduction and Management along with Good Governance, Risk Assessment, Early Warning, Knowledge Building, and Awareness Raising was found to be Highly Evident among schools in the Division Sultan Kudarat.

Recommendations

From the salient findings of this study and the conclusion reached, the following recommendations are presented:

The School DRRM coordinators may continue to implement the Disaster Risk Reduction Activities. The school may continue its best practices to strengthen the DRRM activities to avoid loss of property and lives when disaster strikes. This study be replicated in a wide scope to have a clearer picture of the implementation of DRRM activities and may add other variables which is not included in the study.

Compliance with Ethical Standards

This paper has a single author and confirms the ethical standards.

Acknowledgments

The acknowledgment goes to the participants for their shared time and contribution to the researchers whose work has been referenced in this paper and most especially to Leodie D. Mones, PhD for his technical assistance in completing this paper. Their valuable insights and findings have substantially contributed to the analysis of this study.

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IMPROVING LEARNERS' PERFORMANCE IN ALL LEARNING AREAS THROUGH PROJECT ALL-IN

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ABSTRACT

Students all throughout the world have experienced considerable learning loss as a result of the COVID-19 pandemic. Additionally, these events have had a tremendous impact on how children learn as well as how teachers work. Teachers have chosen to align with lessons and activities to address this issue of knowledge and ability gaps in students. The objective of this study is to determine the efficacy of adopting PROJECT ALL-IN (Addressing Learning Loss thru Aligning Lessons and Activities across Learning Areas), a strategy for reducing the consequences of learning loss for students of PICAB Elementary School in Infanta, District. Subsequently, to acquire the essential information and data for the study, the researcher acquired and made use of the diagnostic test results from all of the PICAB Elementary School students. Furthermore, Quantitative research was employed to assess the data that had been gathered; therefore, the results of the analysis are then used to draw the conclusions about the efficacy of implementing PROJECT ALL-IN on PICAB Elementary School. The researcher maintains a running total of each student's diagnostic test results. Following this, the researcher got to the conclusion that the student's ability to learn had actually been harmed by the COVID-19 pandemic. On the other hand, it was discovered that the adoption of PROJECT ALL-IN gave the teachers support in resolving the kids' learning loss. Thus, the review concluded that PROJECT ALL-IN's application was successful and satisfied all parties involved, including parents, teachers, and students.

Keywords: *Learning loss, Gaps, Issues, Application, Ability*

INTRODUCTION

"Education is not the filling of a pail, but the lightning of a fire."
– William Butler Yeals

The COVID-19 pandemic has a significant impact on education systems worldwide, with schools closing for extended periods and transitioning to remote learning. This disruption has resulted in widespread learning loss among learners, particularly those from disadvantaged backgrounds. Studies have shown that learning loss has been significant in the areas of literacy, numeracy, and social-emotional development (Schleicher, 2020).

To mitigate the effects of learning loss, several strategies have been implemented by educators and policymakers. These strategies include the provision of online learning resources, the use of remedial programs, and the implementation of catch-up programs. However, the effectiveness of these strategies has been mixed, and there is a need for more research to identify the most effective approaches (UNESCO,2021).

Different standardized assessments were conducted and participated by our Filipino learners in the past years. The Philippines' participation to Program for International Student Assessment (PISA 2018) revealed that the country was way below the average of the participating countries in Mathematics, Science and Reading. The country's National Achievement Test results for Grade 6, Grade 10 and Grade 12 conducted last 2018 also indicated a very low performance of learners. On the other hand, results of the Regional Learning Assurance for Monitoring and Progress (LAMP) of Regional Learning Outcomes in Distance Learning which was conducted to select Grade 6, Grade 10 and Grade 12 learners revealed that Grade 6 learners manifested a 69.49% Mean Percentage Score while Secondary Junior High School got 68.91 MPS and the Grade 12 got the lowest Mean Percentage Score of 46.78%.

Recent studies have highlighted the importance of providing learners with individualized support to address their specific learning needs. This support can be provided through one-on-one tutoring, small-group instruction, and personalized learning plans. Research has shown that these approaches can be highly effective in addressing learning loss and improving academic outcomes (Valamis 2020).

According to the results of the school's diagnostic test in all subject areas, the achieved score is only 41.86%, which is less than DepEd standard passing grade of 75%. In this regard, this action research project aims to improve learner's performance through the implementation of Project ALL-IN (Addressing Learning Loss through Aligning Lessons and Activities Across Learning Areas), an innovative teaching approach that promotes integrated and interdisciplinary learning.

Project ALL-IN is a student-centered approach to learning that seeks to bridge the gap between different learning areas by aligning lessons and activities across subjects.

It is designed to promote interdisciplinary learning, critical thinking, and collaborative problem-solving. This approach involves the alignment of lessons and activities across different learning areas to promote a cohesive and interconnected learning experience. Research has shown that this approach can be highly effective in improving academic outcomes and promoting critical thinking skills.

Research Questions

The study aimed to gather information, test, evaluate, and analyze how well PROJECT ALL-IN (Addressing Learning Loss thru Aligning Lessons and Activities across Learning Areas) worked after being implemented to assist the teachers and learners at PICAB Elementary School in addressing learning loss and bridging the gap in learners' knowledge and abilities.

Specifically, the study sought to find out the following:

1. What is the level of learners' performance at PICAB Elementary School before and after the implementation of Project ALL-IN?
2. Is there a significant difference between the level of performance at PICAB Elementary School before and after the implementation of Project ALL-IN?
3. What recommendations for school pedagogical management can be drawn from the study's findings?

METHODOLOGY

Considering the temperament of the study, the researchers employed quantitative research. This investigation utilized a One Group Pre-test Post-test research design as it compared two sets of tests: the pre-test and post-test. According to Reichardt CS (2019), the One Group Pre-test Post-test research design in which the outcome of interest is measured 2 times: once before and once after exposing a non-random group of participants to a certain intervention/treatment.

Sampling

The study utilized purposive sampling. Learners that were guided and teachers that need to implement the PROJECT ALL-IN. Therefore, there were 21 teachers who implemented the project and complete enumeration of the school population from Grade 1-6 or 622 learners served as respondents of this study.

Data Gathering Procedure

The researchers sought first permission from the principal to gather the overall data of learners, sought the participation of other teachers to evaluate the performance of the

learners and secured permission from the learners and parents. After securing all the necessary communication with other parties involved, the researchers conducted the gathering of the diagnostic test results.

Research Instrument

1. Weighted Mean. This was used in analyzing the level of learners' performance before and after the implementation of Project ALL-IN.

The formula is:

WM =∑ x N

Where: WM = Weighted Mean

∑ x = summation of weighted frequencies

N = number of cases

2. **Simple Percentage**

This was used in analyzing the difference in the learners' performance before and after the implementation of Project ALL-IN. It is the ratio of the occurrence (f) and the total number of the population (N) multiplied by 100.

The computation will be guided by the formula:

$$P = \frac{f}{n} x\ 100$$

Where:

P is the computed percentage

f is the frequency of a particular category of a variable

n is the sample

RESULTS

The data in Table 1 presents the results of a pre-test administered to students at PICAB Elementary School across different grade levels before the implementation of Project ALL-IN. The specific question being addressed is the level of learners' performance in various subjects before and after the project.

Table 1. Result of Pre-Test

Grade Level	ESP	AP	FILIPINO	MATH	MAPEH	ENGLISH	MTB	SCIENCE
2	53.84	49.97	42.87	49.18	45.82	42.15	56.90	
3	35.50	38.30	34.63	32.89	37.91	31.82	36.74	38.91

Anderson, T. (2009). Diagnostoc assessment in education: Building on and exending the diagnostic approach. In handbook of research on educational communications and technology (3rd ed., pp.111-124). Routledge. States that the value of diagnostic tests, particularly pre-tests, in education is covered in this chapter. It emphasizes how pre-tests can assist individualized learning and inform instructional decisions.

Table 2. Result of Post-Test

Grade Level	ESP	AP	FILIPINO	MATH	MAPEH	ENGLISH	MTB	SCIENCE
2	75.48	67.66	64.62	57.75	62.75	62.14	67.65	
3	59.69	43.45	53.28	57.24	50.79	57.24	65.4	65.4

Grade Level	ESP	AP	FILIPINO	MATH	MAPEH	ENGLISH	SCIENCE	EPP
4	76.15	60.45	65.56	48.97	56.65	46.08	55.57	54.87
5	82.12	45.69	58.28	43.19	58.57	44.23	53.93	45.69

Grade Level	ESP	AP	FILIPINO	MATH	MAPEH	ENGLISH	SCIENCE	TLE
6	82.97	51.33	69.22	40.44	56.78	51.93	52.03	54.86

Each grade level is represented with the corresponding scores in subjects such as ESP, AP, Filipino, Math, MAPEH, English, Science, and additional subjects like MTB (Mother Tongue-Based), EPP, and TLE (Technology and Livelihood Education).

Specific Question Number 2. Is there a significant difference between the level of performance at PICAB Elementary School before and after the implementation of Project ALL-IN (Addressing Learning Loss thru Aligning Lessons and Activities across Learning Areas)?

Table 3. Difference between Pre-test and Post-Test

Grade Level	ESP	AP	FILIPINO	MATH	MAPEH	ENGLISH	MTB	SCIENCE
2	21.64	17.69	29.99	8.27	16.93	3.93	10.75	
3	24.19	5.15	18.65	24.35	12.88	25.42	28.66	12.27

Grade Level	ESP	AP	FILIPINO	MATH	MAPEH	ENGLISH	SCIENCE	EPP
4	20.87	22.15	30.93	16.08	5.86	14.26	23.39	12.24
5	14.35	14.81	15.82	5.56	16.57	9.39	3.64	13.19

Grade Level	ESP	AP	FILIPINO	MATH	MAPEH	ENGLISH	SCIENCE	TLE
6	25.18	20.15	16.37	8.43	12.42	3.98	1.43	19.08

The result of this study are indicated in Table 3. It showed the difference between the pre-test and post-test. According to the findings, PROJECT ALL-IN was beneficial and suggested as a way to improve students' performance. Where in Grade two learners increased 21.64% in ESP, 17.69% in Araling Panlupunan, 29.99% in Filipino, 8.27% in Mathatematics, 16.93% in MAPEH, 3.93% in English, 10.75% in Mother Tongue Based. While for the Grade three learners increased 24.19% in ESP, 5.15% in Araling Panlipunan, 18.65% in Filipino, 24.35% in Mathematics, 12.88% in MAPEH, 25.42% in English, 28.66% in Mother Tongue Based and 12.27% in Science. There is also an increased in Intermediate learners, for grade four there is 20.87% in ESP, 22.15% in Araling Panlipunan, 30.93% in Filipino, 16.08% in Mathematics, 5.86 in MAPEH, 14.26% in English, 23.39% in Science and 12.24% in EPP/TLE. For grade five learners with the increased of 14.35% in ESP, 14.81% in Araling Panlipunan, 15.82% in Filipino, 5.56% in Mathematics, 16.57% in MAPEH, 9.39% in English, 3.64% in Science and 13.19% in EPP/TLE. There is also an increased on grade six learners of 25.18% in ESP, 20.15% in Araling Panlipunan, 16.37% in Filipino, 8.34% in Mathematics, 12.42% in MAPEH, 3.98% in English, 1.43% in Science and 19.08% in EPP/ TLE.

The findings of the study is supported by Borreo (2023) who found out that extensive remediation in a specific learning area is effective in developing pupils' performance. This is evident on his research study where spending an ample time for remediation improved the oral reading performance of the learners.

Specific Question Number 3. What recommendations for school pedagogical management can be drawn from the study's findings?

Therefore, the following recommendations for future researches are indicated.

1. The researchers may continue the PROJECT ALL-IN.

2. Establish a system for ongoing monitoring and evaluation to track the long-term impact of Project ALL-IN on students' academic performance. Regular assessments, feedback loops, and data analysis should be integral parts of this monitoring process.

3. Provide targeted professional development opportunities for teachers to enhance their capacity in implementing the aligned lessons and activities. This may include workshops, training sessions, and collaborative planning sessions to share best practices.

4. Identify subjects or grade levels where improvement was less significant and tailor additional support and resources to address specific challenges. This could involve targeted interventions, specialized teaching strategies, or additional materials.

DISCUSSION

The data provides a baseline of the learners' performance before the intervention of Project ALL-IN. To assess the impact of the project, a post-test or subsequent data collection after the implementation was done for a comprehensive analysis of the program's effectiveness in addressing learning loss and aligning lessons and activities across learning areas.

According to Pashler H. Rohmer D. Cepeda, N.J & Carpenter, S.K (2007) enhancing learning and retarding forgetting: Choices and consequences. Psychonomic Bulleting & Review 14(2) 187-193, The impact of post-tests is discussed in this paper along with their contribution to improving learning and lowering forgetfulness, which is pertinent to diagnostic testing. Comparing the pre-test and post-test results, there is a noticeable improvement in the learners' performance in almost all subjects across all grade levels after the implementation of Project ALL-IN. The increase in scores suggests a positive impact of the project on addressing learning loss and aligning lessons and activities across learning areas. The extent of improvement varies across subjects and grade levels, indicating potential areas of strength and areas that may need further attention in future interventions or educational strategies.

Conclusions

Based on the foregoing findings the following conclusions had been derived:

1. All learning areas garnered Mean Percentage Scores (MPS) below the national standards, meaning there is a need to implement intervention to improve the performance of the learners.
2. There is a remarkable improvement in the performance of the learners in all learning areas after the implementation of Project ALL-IN.
3. Project ALL-IN is an effective student-centered approach to learning that seeks to bridge the gap between different learning areas by aligning lessons and

activities across subjects. This approach is effectively promotes a cohesive and interconnected learnin experience.

Recommendations

The PROJECT ALL-IN was created as an effective tool and approach for teachers and students of PICAB Elementary School, to make sure that all the students can still learn, and improve their critical thinking and different knowledge on different subjects. In the light of the mentioned findings and conclusions, the following are nearby recommended:

1. To the school head, this study will help them to become aware and will determine what kind of programs, activities and support that is needed to be implemented.
2. To the teachers, the study will benefit the teachers to enchance their capability in teaching.
3. The future researchers may use this study as a data source for their research.
4. Future researchers, can enhance the tools and approach of the PROJECT ALL-IN.

Compliance with Ethical Standards

Prior to performing this study, the researcher obtained consent from the appropriate authorities and ensured that the participants' identities and personal information would remain anonymous and secret.

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IMPROVING THE READING PERFORMANCE OF GRADE 2-TAURUS THROUGH PROJECT RREF

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ABSTRACT

Unique to humans, reading abilities serve as the primary means of communication in daily life. Due to the disruptions in teaching brought on by the COVID-19 pandemic, students in public schools experienced reading learning loss. The researcher conducted a study to deal with these issues. This study used a pre-test post-test research design to evaluate Project RREF's efficacy as an intervention program to improve the reading abilities of Grade Two Taurus students, with the goal of determining the effectiveness of PROJECT RREF to elevate the reading performance of Grade 2 students at Binulasan Integrated School Infanta, Quezon. The 15 pupils in the Grade Two Section Taurus at Binulasan Integrated School, Infanta, Quezon, School Year 2022-2023, in particular, was the focus of the project. The results of the study revealed that the average of reading performance of learners during the pre-test is not good that out of 33 pupils there are 15 or 45% of grade 2 learners fall in frustration and nonreaders. After the implementation of Project RREF, the post-test was conducted. The results denote that the average performance of the class increased at 6.69. There is a significant difference in the reading performance before and after the implementation of Project RREF, which signifies an increase of 10.63
% in the average score from the pre-test to the post-test. This denotes that significant difference in the oral reading performance of Grade Two Taurus pupils before and after the implementation of project RREF was clearly shown. The results proved the effectiveness of remedial reading every Friday and the 30 minutes reading habit before the class start.

Keywords: *reading performance, authentic results, and learning loss*

INTRODUCTION

The COVID-19 outbreak had a global impact on all aspects of human activity, including education, research, and healthcare. Sports, entertainment, transportation, worship, social gatherings/interactions, the economy, businesses, and politics are just a few examples. Indeed, the entire world was in turmoil as a result of COVID-19 threats, and the reality of the situation was difficult to bear. The education sector remains one of the worst-affected by the Coronavirus outbreak (Onyema et.al,2020).

Hares and Mundy (2020) estimated that 91.3 % or 1.57 billion students drop out of school worldwide due to the COVID-19 pandemic. In addition to lost learning time, it is estimated that between 7 and 9.7 million children will drop out of school due to the economic impact of the pandemic (Wagner & Warren, 2020). In another estimate, students can experience learning loss more than one year after three months of school closures because they fall further behind when schools reopen (Kaffenberger, 2021). Chen et al., (2021) explain that students have paid a high price in learning loss, even the impact can be detrimental to the economic well-being of some students throughout their lives.

Furthermore, reading needs students to understand print, recognize distinct sounds in spoken language, and relate those sounds to written letters. They also require extensive background and language knowledge to comprehend the words they read. Finally, learners must be able to instantly recognize most words and read related material effortlessly, paying attention to syntax, punctuation, and sentence structure (Schwartz & Sparks, 2019).

Research looked at how the pandemic affected learning among students in the early grades, and it found noticeable changes in the development of fundamental reading abilities over the course of a year. The results of a reading assessment given to first- through fourth-graders across the country show that students' growth in oral reading fluency, or the ability to read aloud quickly and accurately, slowed significantly in 2020 as a result of the unexpected school closures caused by COVID-19 (Spector, 2021).

Monitoring and Evaluation

Practitioners must naturally be interested in learning how the program functioned and what needed to be improved in order to meet the demands of the learners during monitoring and assessment. Monitoring and evaluation, or M&E, is a crucial component of the attempt to comprehend the efficacy of innovations in a student's learning programming and impact, according to Assefa (2021). Additionally, he claimed that facing challenges and accepting constructive criticism could hinder the success of program execution. However, routine observation ensures that the needs of the students are satisfied. It also provides information on decisions that can be made to improve upon or change original goals or performance levels in the future.

Hasbrouck (2022) further stated that despite the fact that these procedures for screening, diagnosing, progress tracking or monitoring, and evaluation have been around for a while, they haven't been applied regularly in schools (Hasbrouck, et al., 1999). He continued, "This position is likely to change if teachers become more conscious of the value of preventing reading challenges and providing rigorous intervention as soon as a concern is noted." Furthermore, using fluency norms to set appropriate goals for student improvement and monitor progress toward those goals can be a powerful and useful tool for teachers to employ when determining the best course of instruction for their students, particularly the lowest achievers and struggling readers.

Additionally, Gutierrez (2020) used the quasi-experimental method to conduct research on the impact of the monthly monitoring and evaluation on the reading performance of students in grades 1 and 2. The findings showed that pupils in Grades 1 and 2 had considerably better reading skills after the intervention. She came to the conclusion that monitoring and validating monthly reading exams helped students' abilities.

Borreo (2023) conducted a study on the impact of project HEART ME, a reading intervention for learners under frustration level which used extensive reading remediation particularly 30 minutes before the class starts and 30 minutes after the class session ends coupled with Monitoring and Evaluation tools. The findings revealed that there is a positive difference which definitely improved the oral reading performance of elementary pupils in Binulasan Integrated School using the Reading intervention using the project HEART ME. This implied that when pupils are exposed to different reading drills and activities, their reading skills will be amplified.

Meanwhile, the Informal Reading Inventory (IRI), a project of the Schools Division Office in Quezon Province through the Curriculum Implementation Division Instructional Management Section that directly addresses its thrust to make every Quezonian child a reader, was conducted at Binulasan Integrated School when classes for the School Year 2022–2023 opened to all students. Having said that, among the 33 Grade 2 Taurus pupils, 15 students, or 45%, fell into the Non-Reader and Frustration Level in Filipino and English categories. In terms of the school's reading proficiency before to the start and full implementation of face-to-face education, the reading pre-assessment result was extremely alarming.

To address the aforementioned issue, the researcher intended to develop and improve the reading ability of Grade Two Taurus pupils particularly those pupils in Binulasan Integrated School through "Project RREF" (**R**emedial **R**eading **E**very **F**riday).

Research Questions

This study aimed to determine the effectivity of PROJECT RREF to elevate the reading performance of Grade 2 pupils of Binulasan Integrated School Infanta, Quezon through **PROJECT RREF** (**R**EMEDIAL **R**EADING **E**VERY **F**RIDAY**)** for the SY:2022- 2023.

Specifically, this study sought to answer the following questions:

1. What is the level of Reading performance of Grade 2-Taurus before the implementation of PROJECT RREF?
2. What is the level of Reading performance of Grade 2-Taurus after the implementation of PROJECT RREF?
3. Is there any significant difference between the level of Reading performance of Grade 2-Taurus before and after the implementation of PROJECT RREF?
4. Based on the result of the study, what enhancement in the school's reading program may be developed?

METHODOLOGY

Research Design

This study used a pre-test post-test research design to evaluate Project RREF's efficacy as an intervention program to improve the reading abilities of Grade Two Taurus students. This research method, according to Campbell and Stanley (2001), takes place prior to the actual experiment and establishes how the researcher's intervention will influence the experiment.

Due to its suitability and connection to the study's goals—which concern the effect and influence of the RREF project on Grade Two Taurus readers—the researcher chose this research methodology.

However, the goal of this study is to help Grade 2 students who experience displeasure with their reading performance (slow and nonreaders).

Research Locale

The study will be conducted in Binulasan Integrated School (BIS). The school is located in Infanta District in the Division of Quezon. The school has five sections in Grade two but Grade 2 Taurus pupils are the only respondents. There are 33 Grade 2 pupils, there are 15 pupils or 45% who fall under frustration level in Filipino and in English.

Respondents of the Study

The Grade Two Section Taurus in Binulasan Integrated School, Infanta, Quezon, School Year 2022-2023, specifically those 15 students who exhibit frustration in both Filipino and English, would serve as the study's responders. The approach of purposive sampling was applied. Purposive sampling is a sampling approach in which the researcher uses his or her own judgment to pick people of the population to take part in the study. It is also referred to as judgmental, selective, or subjective sampling. Purposive sampling, a non-probability sampling technique, is when "elements" picked for the sample are done so using the researcher's discretion. Also, researchers frequently think that by

exercising reasonable judgment they can collect a representative sample (Business Research Methodology, 2014).

Data Gathering Procedure

The researcher sought permission from the school principal as well as to the parents of the involved pupils before the conduct of the study in improving the reading performance of grade two Taurus pupils who fall from frustration level through "Project RREF" (Remedial Reading Every Friday).

In this study, the researcher used the pretest and posttest in this study to collect the relevant data. Every Friday, the Grade Two adviser conducted the intervention that utilized to boost the students' reading proficiency by extending the permitted reading time. Additionally, the researcher adopted the monitoring instrument that was created by Dr. Ramil A. Borreo and a Phil-IRI evaluation tool to track and assess the learners' reading progress at the conclusion of each quarter. It took place over Three quarters (Second, Third and Fourth Quarter to be exact).

A posttest was performed following the implementation of the "PROJECT RREF" technique. To ascertain whether there has been a significant change in the reading performance of grade two students, the researcher compared the pretest and posttest

Statistical Treatment

The following statistical tools was used to interpret the data to be gathered.

1. **Weighted Mean.** This was used to determine the average reading performance of Grade Two pupils

The formula is:

$$WM = \frac{\sum x}{N}$$

Where:

WM = Weighted Mean
$\sum x$ = summation of weighted frequencies N = number of cases

To interpret and satisfy the results of the reading performance of Grade Two Taurus-pupils, the Schools Division of Quezon grading scale below in Informal Reading Inventory for grades 1 to 3 will be used and modified by converting mean percentage scores into the weighted mean scores.

Scale	Interpretation
3.01-4.00	Independent
2.77-3.00	Instructional

0.06-2.76 Frustration
0.00-0.05 non-reader

2. **Paired T-Test**. This was used to analyze and determine the significant difference of the reading performance of Grade Two Taurus pupils of Binulasan Integrated School through "Project RREF" (**R**emedial **R**eading **E**very **F**riday)

The formula is:

$$t = \frac{\Sigma d}{\sqrt{\frac{n\ \Sigma d^2 - (\Sigma d)^2}{n - 1}}}$$

Where:

t is the t-value
Σd is the sum of differences between the pre-test and posttest
Σd2 is the sum of squared differences between the pre-test and posttest n is the total number of paired scores

RESULTS AND DISCUSSION

This part includes the discussion of results and reflection of the study. The data presented in this part follows the arrangement of the problems as set in the Action Research Questions.Upon the administration and after the conduct of the examination, the collected data and the result of the pretest and posttest in the second, third and fourth quarter were evaluated and analyzed.

1. **What is the level of Reading performance of Grade 2-Taurus before the implementation of PROJECT RREF?**

Table 1
Level of Reading performance of Grade 2-Taurus Before the Implementation of Project RREF

No. of Pupils	**33**
Mean	**51.64**
Standard Deviation	**7.19**

Table 1 shows the number of pupils, Mean and Standard Deviation before the implementation of Project RREF. The average weighted mean is 51.64 with a standard deviation of 7.19. The results denote that the average performance of the pupils is not good as revealed in the administered pre-test.

According to Kaffenberger (2021), students can experience learning loss more than one year after three months of school closures because they fall further behind when schools reopen.

2. **What is the level of Reading performance of Grade 2-Taurus after the implementation of PROJECT RREF?**

Table 2
Level of Reading performance of Grade 2-Taurus After the Implementation of Project RREF

No. of Pupils	**33**
Mean	**58.67**
Standard Deviation	**7.66**

Table 2 shows presents the number of pupils, Mean and Standard Deviation after the implementation of Project RREF. The average weighted mean is 58.67 with a standard deviation of 7.66. The results denote that the average performance of the pupils is good as revealed in the administered post-test.

The findings of the study is supported by Gutierrez (2020), who conducted a study on the impact of the monthly monitoring and evaluation on the reading performance of students in grades 1 and 2. The findings showed that pupils in Grades 1 and 2 had considerably became better readers after the intervention. She came to the conclusion that monitoring and evaluation and giving an extra time in reading helped the students' abilities improve their reading abilities.

Demonstrating the necessity for intervention programs to assist the 45% of pupils. Hence, Reading plays a significant part in the development of science because reading accounts for the biggest percentage of information transfer (Salaberry, 2001

3. **Is there any significant difference between the level of Reading performance of Grade 2-Taurus before and after the implementation of PROJECT RREF?**

Table 3
Test of Significant Difference between the level of Reading performance of Grade 2-Taurus before and after the implementation of Project RREF

Tests	Average Weighted Mean	P-value	Level of Significance	Decision
Pre-test	**51.64**	**0.00**	**0.05**	**Reject the Null Hypothesis**
Post-test	**58.33**			

Table 3 presents the average weighted mean between the reading performance level

of Grade Two Taurus learners in the pre-test, which is 51.64, and 58.33 in the post-test signifies an increase of 6.69. This was found to be significant as supported by the P-value of 0.00 at a 0.05 level of significance.

The result confirms that there is a significant difference in the reading performance of Grade Two Taurus learners of Binulasan Integrated School before and after the implementation of Project RREF.

The findings are supported by the study conducted by The Florida Center for Reading Research as cited by Kafle (2017) advises ninety (90) minutes of literacy instruction for schools with a high percentage of students at risk for reading challenges; this time should be altered as necessary to accommodate the changing requirements of students. Therefore, the more reading exercises and activities that kids who have reading challenges are exposed to over time, the better their reading skills will be strengthened.

4. Based on the result of the study, what enhancement in the school's reading program may be developed?

Inputs to Improve the reading performance of Grade Two

Proposed Enhanced Program

Key Results Area	Specific Objective	Strategy	Persons Involved	Materials Needed	Time Frame	Expected Output	Budget
Remedial **R**eading **E**very **F**riday	To encourage ongoing improvement of students' reading abilities	-Before class there is a 30-minute reading period. And remedial reading every Friday.	Teachers -School heads -Master Teachers	-Printed Reading Materials -Laptop Television	Year Round	100 % Readers	1000

Conclusions

This chapter presents the summary of findings, conclusions, and recommendations. The summary of findings follows the order of the statement of the problem in chapter 1. Based on the findings extracted from the study, the following conclusions are drawn:

1. Before the implementation of Project RREF, out of 33 students there are 15 or 45% students who fall under frustration and nonreader level in Filipino and in English due to pandemic.
2. After the implementation of Project RREF for 7 months, it was concluded that the reading performance of grade two Taurus learners at was improved. There are 31 or 93.39% students who belong to Instructional and Independent readers.
3. It was highly evident that there is a significant difference in the reading performance of grade two taurus learners before and after the implementation of Project RREF. Remedial reading every Friday and 3o minutes reading habit before the class start are effective ways for improving the reading performance of learners.
4. Due to the pandemic, the majority of students experienced learning loss, particularly in reading, thus teachers need to take action to help students develop their reading abilities in fun and engaging ways.

Recommendations

In light of the aforementioned findings and conclusions, the following are hereby recommended:

1. For learners

a. Request the assistance of a parent or other trusted adult while reading words in unfamiliar reading materials to improve their reading abilities.
b. Learners should continue practicing their reading skills even at home.

2. For the Teachers

a. Plan and carry out initiatives like remedial classes and other innovations that would improve the students' reading skills even further.
b. Towards the end of the fourth quarter, engage in more intensive reading remediation exercises.
c. The designed project proposal may be adopted by other teachers, to improve the reading performance of the learners.

3. For school administrators

a. The school head of the school may allot funds from MOOE or the local budget for the preparation, planning, and execution of upcoming programs at various grade levels.
b. Encourage the teachers to participate in trainings and seminars that will improve their teaching skills.

4. For Future researchers

For more conclusive results, they could replicate this study and do further future investigation on this Improving Reading Performance in other districts.

Compliance with Ethical Standards

The researcher sought permission from the school's principal and parents of the involved pupils. The researcher also promised to keep the participants' identities and personal information anonymous and secret.

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KNOWLEDGE MANAGEMENT AND ORGANIZATIONAL PERFORMANCE OF CALL CENTER INDUSTRY IN DAVAO CITY

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ABSTRACT

This study aimed to identify the domain of knowledge management that best influences organizational performance in a call center industry setting in Davao City. The study employed a quantitative non-experimental research design to obtain the result. The study involved 197 respondents, from call centers at the supervisory level, who were chosen through a random sampling technique. The primary tool for data collection is an adapted questionnaire following a 5-point Likert-type scale. The data gathered were subjected to statistical analyses, which included weighted mean, Pearson correlation, and regression analysis. Results indicated that the level of Knowledge Management was very high, and the level of Organizational Performance was also very high. However, when these were tested for a significant relationship, the study found no association with a positive r-value of 0.093. Furthermore, it was shown that the Culture domain of knowledge management best influence organizational performance. This implies that the system of shared assumptions, values, and beliefs in the call center fields can change the view on the actual results or output of this firm as measured against its intended output, goals, or objectives.

Keywords: *knowledge management, organizational performance, call center industry, business, correlation, regression, Philippines*

INTRODUCTION

Globally, the business environment is very volatile with a dynamic nature that can be seen in challenges faced by the organization, especially in the call center industry. Poor

organizational performance, one of the persistent issues that should be addressed immediately, is widespread in organizations. Such cases of sub-optimal efficiency, falling productivity and such bad service delivery raise an alarm indicating the presence of underlying bigger system issue that needs careful analysis (Abubakar et al., 2019). Customer service centers are used by numerous companies to handle consumer questions regarding billing, opening new accounts, and faults with goods or services. In addition to being recognized as a useful tool for businesses to manage customer contacts, call centers have a bad image for being high-stress workplaces that lead to subpar organizational performance (Pfeffer, 2010). Nowadays, organizational performances have been declining over the years in a call center industry. Historically, companies do measure its performance through sales volume and financial performance; however, it is simply inadequate. Numerous businesses fail to recognize what other signs are as measurement strategies that are required to effectively redesign processes.

Other research also suggests that quite a few intangible resources have some impact on organizational performance, not much consideration was devoted to recognizing the decision-making procedures where resources become valued (Barney *et al*, 2001; Lynch, 2010). Thus, knowledge management can positively affect organizational performance; it must lend itself to improved organizational memory (Jennex, 2017). This is supported by other searches that using knowledge management effectively could increase organizational performance and competitiveness in the market and organizational awareness (Appolloni, Coppola & Piga , 2019). Literature appears to be voluminous on this, therefore much needs to be learned about the present state of knowledge surrounding organizational performance. In this realm, previous research has made significant contributions in the past pointing out different aspects that shape the efficacy of an organization. These studies have considered leadership styles, employee motivation factors and technological advancements among others. These contributions are important to note as they have formed the basis of future work, allowing us to build on prior insights as well as refine our knowledge of the connection among knowledge management and organizational performance.

The literature on knowledge management in the call center industry has made considerable progress in understanding how knowledge management practices are associated with company performance. But a prominent research gap remains in terms of identifying and focusing on certain features of their settings which affect the outcomes of knowledge management projects in different call centers. The focus of some investigations touched upon knowledge management at large organizational venues; however, many aspects of the call center environment have not yet been explored despite the emergence of the nature of the customer interactions, employee turnover, and the rapid development of technologies. It is imperative in filling this research gap to create specific and industry-based knowledge management interventions which can help improve the organizational performance and competitive advantage in the call center business sector which is a dynamic and competitive world. Since there is lack of information on the knowledge management and organizational performance of call center industry in Davao city, this explains why this research is

taken, justified, needed and important. The objective of the study is to identify relevant recommendations that would help to establish new knowledge management practices applicable in the agencies to boost organizational performance under the current business environment parameters.

Research Questions

The purpose of the research is to identify which domain of knowledge management that best influences organizational performance in a call center industry setting in Davao City.

Thus, this study seeks to attain the following objectives:

1. To assess the level of knowledge management in terms of:
    1. leadership;
    2. strategy; and
    3. culture?
2. To ascertain the level of organizational performance in terms of:
    1. comparative performance;
    2. internal performance?
3. To determine the significance of the relationship between knowledge management and organizational performance?
4. To identify which domain of knowledge management best influences organizational performance among call center industry in Davao City?

METHODOLOGY

Research Locale

The research was particularly carried out in Davao, Philippines. After Metro Manila and Metro Cebu, this city has the third-highest population in the nation. In terms of total land area, the city also happens to be the biggest in the nation.

The survey was carried out in Davao City, which is host to roughly 15 international call center businesses. The city takes pride in being Mindanao's primary center for business, commerce, and manufacturing. Growing teams, accounts, and clients handled by a worldwide business process outsourcing (BPO) organization in Davao City indicate a rise in the BPO sector. Davao is starting to resemble Manila every day. This vast metropolis boasts abundant gastronomic, cultural, advertisement, and economic resources. International businesses, shopping centers, and other enterprises are already proliferating throughout the city and neighboring regions.

Sampling Method

The respondents in this research were the supervisory/management personnel in the call center companies in Davao City. A sample of 197 supervisory/management personnel in the call center industry was chosen to participate in this study. The

respondents of the study were calculated by means of the Raosoft Sample Size Calculator with 5% margin of error.

The researcher utilized a basic random sampling technique. To guarantee that every member of the sample population has a similar likelihood of being chosen as a research participant, this sampling process was employed. It would prove nearly impossible to test, look at, or gather data from every single component in a research study encompassing a large number of parts. Although it was feasible, the time, expense, and other human resources needs would be prohibitive. Sampling was therefore employed to enable research.

Data Gathering Procedure

After the panel members' consent, the researcher followed these stages and processes to collect information for the research: Firstly, the investigator requested consent from the university to perform the research. The top call center companies in Davao City received a formal letter of recommendation from the dean of the University requesting their cooperation.

Following approval, the researcher gave the participants a synopsis of the research and described the goal and research instrument. Following that, the researcher instructed the participants on how to complete the survey correctly. The researcher then painstakingly encoded every response in an Excel spreadsheet and sent it for statistical examination.

Following data collection, the findings were examined and interpreted considering the study's goals. Considering the study's outcomes, suggestions were developed, and conclusions were reached.

Research Instrument

Two standardized scales were used in this study. Two adapted and contextualized survey instruments were used in this study. A survey questionnaire on knowledge management was adapted from Mangotra and Mahajan (2014) which consisted of leadership, strategy, and culture with 21 items in total. On the other hand, organizational performance was taken from Makore and Eresia-Eke (2015) which comprises comparative performance and internal performance with 7 items in total. The scale has 5 options from “strongly disagree” to “strongly agree”.

A group of professionals verified the contextualization and fitting of the modified tools within the local environment. The independent variable is knowledge management with markers of leadership, strategy, and culture. Likewise, both instruments were verified for reliability and appropriateness through Cronbach Alpha test.

Statistical Treatments

Several statistical methods were applied to the information to provide deeper interpretation and assessment:

Mean. Mean was utilized to characterize the knowledge management and organizational performance in the call industry in Davao City.

Pearson Product Moment Correlation. This was utilized to assess the importance of the connection between organizational performance and knowledge management in the Davao City call center sector.

Regression Analysis. This statistical treatment was utilized to uncover which domain of knowledge management best influences organizational performance in a call center in Davao city.

Scope and Limitations

This study included participants with supervisory and line management personnel actively involved in call center operations in Davao City. The sample was selected to allow a concentrated focus on those individuals who enjoyed prominent positions in the call center companies, significant insights into the managerial aspects of the industry thus offered. Participants who were involved or manage—directly supervisory or managerial position in their organization, which indexes their impact on the functioning of the decision-making processes within the organization.

Taken on the contrary, exclusion criteria were developed to establish some form of refinement for the group by rejecting those participants who played no role or were not involved in the act supervisory and managerial processes in the call center setting. Since the goal was to measure the data of the specific stratum of the call center workforce – the managerial stratum – the paper excluded staff members without oversight responsibilities such as frontline agents or support staff. Simultaneously, originally people from call centers that are outside the city of Davao were excluded so that the geographical aspect and situation detail are maintained.

RESULTS

Table 1

Level of Knowledge Management in a Call Center Industry in Davao City

Indicators	SD	Mean	Descriptive Level
Leadership	0.19	4.77	Very High
Strategy	0.25	4.68	Very High
Culture	0.25	4.65	Very High
Overall	**0.17**	**4.70**	**Very High**

Table 2

Level of Organizational Performance in a Call Center Industry in Davao City

Indicators	SD	Mean	Descriptive Level
Comparative Performance	0.53	4.57	Very High
Internal Performance	0.35	4.58	Very High
Overall	**0.39**	**4.57**	**Very High**

Table 3

Significance of the Relationship between Knowledge Management and Organizational Performance in a Call Center Industry

	Organizational Performance		
Knowledge Management	**Comparative Performance**	**Internal Performance**	**Overall**
Leadership	-0.125 (0.081)	0.120 (0.093)	**-0.031** **(0.668)**
Strategy	-0.169* (0.018)	-0.051 (0.472)	**-0.139** **(0.051)**
Culture	0.397** (0.000)	0.173* (0.015)	**0.350**** **(0.000)**
Overall	**0.068** **(0.340)**	**0.104** **(0.147)**	**0.093** **(0.191)**

Table 4

Significance on the Influence of Knowledge Management on Organizational Performance of Call Center Industry in Davao City

Organizational Performance				
Knowledge Management	***B***	**B**	**t**	**Sig**
Leadership	-0.117	-0.056	-0.767	0.444
Strategy	-0.388	-0.249	-3.387	0.001
Culture	**0.692**	**0.443**	**6.382**	**0.000**
R	0.437			
R^2	0.191			
F	15.208			
P	0.000			

DISCUSSION

Table 1 showed the statistical descriptions result on evaluating the level of knowledge management in the Davao City call center business. The sector has a total mean of 4.70 alongside a descriptive score of very high, meaning that knowledge management situations are always observed. Overall, it shows that although some call center managers strongly agree or disagree with certain claims, most of them tend to realize that managing knowledge in their organization may be continuously observed, albeit with slight variations in each supervisor's response.

The leadership indicator had the largest mean of all the knowledge management measures, 4.77, and was considered very high. This suggests that managers frequently see their staff members work toward accomplishing the organization's common objectives.

Besides, the three indicators of knowledge management posited a very high level. The other knowledge management indicators, which are strategy, and culture, posited a *very high* level. It can be gleaned from the data that strategy gained the mean of 4.68, described as *very high*. This indicator specifies that the company is continually manifesting its role, purpose, and strategic direction. Whereas the culture obtained a mean of 4.65, taken as *very high*. This marker averts that the company is always encompassing various employees' backgrounds, shared values, and norms that emerged into a working environment.

The overall level of knowledge management was very high as perceived by the supervisory/management personnel in the call center industry. As to indicators, the level of knowledge management in terms of leadership was very high. This indicate that the leadership of supervisory/management personnel in the call center industry was observed at all times concerning; central knowledge in managing call center; recognizes the possibilities of its knowledge resources to generate revenue and cultivates methods to capitalize on them; a culture of transparency and confidence governs the call center; enhancing customer service is acknowledged as a key goal of knowledge management; adaptability and a desire for innovation motivate the approach to learning; the call center has developed innovative methods to connect knowledge to the monetary outcomes; and it has created a particular collection of indications for monitoring knowledge that includes financial as well as non-financial metrics.

The results confirm the study by Theriou et al. (2011), which uncovered that knowledge management can be made more effective by utilizing five enabling factors: people, technology, leadership, culture, and knowledge management strategy. These elements improve the organization's knowledge management effectiveness. They also underlined how information can be made more effective by leadership, which fosters an environment in which it can be applied in real-world situations to tackle organizational challenges. It also supports the research by Han et al. (2016), which found that leadership—which is crucial to teamwork—is a sensitive element in knowledge management.

According to Garcia-Morales et al. (2012), attending to the individual needs of employees can have a positive impact on the organization by encouraging personnel to put in more effort at work, improving the quality of products or services, and increasing customer satisfaction, which can lead to higher returns on expenditures and the chance to increase sales or services to boost earnings.

As to knowledge management in terms of strategy, the level was very high. This indicate that the strategy of supervisory/management personnel in the call center industry was observed at all times concerning; The team frequently holds meetings to stay up to date on the most recent technological advances improvements; staff members have access to the web for searching up data; guides and guidelines are frequently employed; significant occurrences, events and circumstances are dealt with; and all call center employees are continually looking for improved methods to satisfy consumers.

Theriou et al.'s (2011) study, which found that improving an organization's information-sharing strategy within a business can boost employee performance and corporate competitiveness, corroborated the study's findings. According to Fong and Kwok (2009), the goal of the approach is to improve information flow within the company through engagements and conversations.

As to knowledge management in terms of culture, the level was very high. This indicate that the culture of supervisory/management personnel in the call center industry was observed at all times concerning; Knowledge management facilitates acquiring fresh abilities inside their work; knowledge sharing facilitates studying afresh each day; an environment that supports advocates team members to contribute and talk about ways to avoid causing the same mistakes twice; an environment of trust facilitates improved decision-making and makes the task of making choices easier; prompt knowledge regarding innovative applications and technological advances enhances efficiency.

The study's findings in line with those of Gholami et al. (2013), who found that staff autonomy (skill development) and training, staff engagement in the management of knowledge tasks, collaboration, motivating staff members, efficient utilization of technology for communication and information, evaluation of performance that takes into account both soft and hard regulations and a knowledge-friendly workplace environment are among the most important aspects of knowledge management that may be developed. Additionally, Laal (2011) investigated knowledge management and discovered that information sharing that could influence an organization's principles and procedures requires trust among its members.

Table 2 displays the organizational performance status of Davao City's call center sector as determined by several markers: comparative and internal performance. The standard deviation was 0.39, which denoted the consistency of the respondents' answers. The calculations yielded a very high total mean rating of 4.57, indicating that organizational performance is consistently demonstrated.

The overall mean score was based on the mean scores of the two indicators of organizational performance. First was *the comparative performance* with a mean score of 4.57 described as *very high,* which depicted that the compelling motivation for organizational improvement was always manifested. Lastly, *internal performance* revealed a mean score of 4.58 described as *very high,* which meant that its growth is always manifested over a while.

The overall level of organizational performance was very high as perceived by the supervisory/management personnel in the call center industry. As to indicators, the level of organizational performance in terms of comparative performance was very high. This indicates that the leadership of supervisory/management personnel in the call center industry was always manifested concerning; in contrast to the business standard, they are more profitable; they have greater market share; and they are growing more rapidly.

The study's findings were in line with a 2003 study by Wright et al, which showed that management strategies for generating profits, operating costs, and sales were used to track organizational performance as a measure of corporate success. To evaluate the company's success in comparison to its primary rivals, Kyrgidou and Spyropoulou (2013) gathered subjective assessments of sales, customer satisfaction, and financial performance. Additionally, Kunze et al. (2013) used senior managers' assessments of the company's financial status, expansion, efficiency, and personnel turnover as well as recruitment in comparison to the immediate industry competitors to evaluate the performance of the organization.

As to organizational performance, in terms of internal performance was very high. This indicate that the leadership of supervisory/management personnel in the call center industry was always manifested concerning; Their company is operating more efficiently than it was a year ago; it is operating more efficiently than it was a few years ago; it has accomplished the targets it set for the last year and the last five years.

Thomaz et al. (2017) investigated a method that tracks and assesses performance in connection with the definition of goals and desired outcomes, and organizational performance management, which includes techniques, structures, and indications. Developing and assessing a strategy, inspiring employees, and reporting the performance to stakeholders are all important aspects of improving the management of organizational performance.

Similar to this, an organization's performance serves as a foundation for evaluating how well its outcomes are moving in the direction of predefined goals (Wheelen and Hunger, 2012). Performance goals lead to an efficient execution of plans throughout the entire company, whereas a management of performance for the company ought to be put into practice (Zulkiffli, 2011).

Table 3 illustrates the investigation assessed the association between the two variables. The null hypothesis was accepted based on an overall r-value of 0.191 and a p-value greater than the 0.05 level of significance. Overall, the findings indicated that there is no discernible relationship between knowledge management and company performance. The conclusion suggests that there is no correlation between changes in an individual call center business's level of knowledge management and changes in organizational performance.

On the other hand, it can be observed that in a singular capacity, among all indicators of knowledge management, only culture had a significant relationship with organizational performance, as shown by its r-value of 0.350 and p-value <0.05. The strategy also had significant relationships when correlated with comparative performance, which obtained an r-value of 0.397 and p-value < 0.05.

The overall relationship between knowledge management and organizational performance in a call center industry was highly significant. This means that the more knowledge management being observed, the better the organizational performance in a call center industry.

The study's findings were in line with those of Rasula et al. (2012), who found a connection involving organizational performance and knowledge management strategy. In a similar vein, Ling's (2013) research indicated a substantial relationship between the variables. The findings are coherent with the results of the study of Chen et al. (2015), who found that management is crucial to the search for goods and services that can boost an organization's productivity and maintain a larger competitive edge.

Table 4 are results of the regression study findings which demonstrate the strong correlation between organizational performance and culture as a knowledge management metric in Davao City call center businesses. The most accurate indicator was found to be culture, which had a considerable impact on organizational performance, according to the investigation. The statistical relevance of culture's impact on the efficiency of an organization is determined via an F-value of 15.208 and a p- value of 0.000, both of which are less than the 0.05 level of significance. Additionally, the findings showed that when knowledge management and organizational performance were regressed, the R2 value of 0.191 was produced. This suggests that 19.10% of the variability in organizational performance in the call center business may be explained by the knowledge management variations. By contrast, the remainder of 80.90% may be ascribed to other causes outside the purview of this investigation.

The overall significance of knowledge management on organizational performance was discovered to be significant. According to the findings, culture was the best indicator among leadership and strategy to predict the organizational performance of the call center industry.

Shahzad et al (2012) said that in order to raise employee performance generally, managers and other executives ought to foster a strong organizational culture. According to Fellows and Liu (2013), organizational culture fosters learning among its members. Adhocracy environments were also found to be strong positive determinants of performance in the company by Fekete and Bocskei (2011).

The research presented the salient role of organizational culture on performance outcomes. Culture directly affects the behavior of employees and indirectly impacts decision-making functions. A positive adaptive culture contributes positively to the performance measures and the study highlights this fact. Once advocated for strong organizational culture that encourages innovation, networking, as well as continuous development in the long run optimizes efficiency.

Strategy and culture’s powerful impact factors in the context of Davao City’s call centers contribute greatly to the outcomes achieved in the performance of operations. A strategic approach enables the processes to be fine-tuned, workflows to be tightened, and general performance to be smoothed. Moreover, the culture of organizations in call centers influences the way an employee acts and performs. It helps build a culture that supports teamwork, communication, and sense of accountability, and that also helps increase operational efficiency.

The cultural setting of Davao City significantly contributes to determining the organizational performance of call centers in the area. The cultural characteristics of

organizations may help to create a co-operative and team-oriented environment amongst the employees which leads to effective communication and collaboration. Furthermore, the high levels of industriousness and loyalty that are generally connected with being Filipino could positively influence call center operators in Davao City's commitment and productivity. But it is very important that organizations are culturally intelligent and that their management strategies are adapted to match with local values and practices, because, to not do so may cause problems regarding employee morale, engagement, and overall organizational performance. Achieving harmony between the international standards of best practices and the local cultural peculiarities is a precondition to fully unleash the potential of the workforce in Davao City's call centers.

Conclusions

This research presents that according to the supervisory/management personnel in the call center industry, the level of overall level knowledge management is very high. Likewise, a very high level of organizational performance in the call center industry was found. Moreover, there is no significant connection between knowledge management and organizational performance in the call center industry. Among the domains of knowledge management, culture was the best predictor of the supervisory/management personnel in the organizational performance.

These findings imply that knowledge management in terms of culture plays a necessary part in organizational performance. With this, the supervisory/management personnel could improve the performance of the organization and that can sustain greater competitive advantages.

Recommendations

The conclusion is that, while all in all, the KM levels in the Davao City Call Center Industry are praiseworthy, these recommendations try to fine-tune and improve aspects that were identified in the study. By tackling these areas, the industry can strengthen its position as an innovator in effective knowledge application, thereby ensuring continued organizational profitability and competitive advantage. The following recommendations address the call center industry players, management teams, and policymakers, whose interpretations significantly shape the knowledge management setting in their respective organizations.

Further investigations may also be focused on comparable research with multiple variables conducted by other researchers in order to validate the current study's findings while taking into account additional factors that influence organizational performance in the call center industry. Additionally, the area of study may be expanded in order to allow researchers to confirm the current study's findings.

Compliance with Ethical Standards

The research was conducted using the following ethical standards:

Informed Consent Process. Informed consent documents were provided for research participants to confirm their voluntary participation free from fear of harm or intimidation.

Voluntary Participation. Each participant was offered the option to participate freely and without facing any penalties or repercussions. Following the presentation of the study's objectives and advantages to the participants, the respondents' rights to participate in the research were duly acknowledged and respected. Respondents are free to choose not to answer any questions on the survey.

Privacy and Confidentiality. The study ensured that the participants' private and/or professional information remained confidential, with special attention paid to maintaining the maximum privacy of their data. Participants withdrawing were assured of confidentiality, and the data were excluded from the final analysis. The criteria for withdrawal plan to cater for anything unforeseen and ensure continuity of the integrity of the researchers' findings.

Benefits. Although there are no immediate rewards from this survey, participants can choose to provide their contact information to be entered into a lottery for five (5) cash vouchers worth Php 150.00, which will be given away to five (5) randomly selected responders. If the paper is turned into a non-technical study brief, call center organizations can use its results as a basis for enhancing their services, on the grounds of scholarly value, and use the summary of the research to implement policy adjustments at their own discretion.

Recruitment. The researcher's inclusion criteria, which included being 20 years of age or older, were used to determine which subjects should be recruited. Every employee in the business's human resources department helped the researcher find the appropriate respondents.

Risks. High-risk scenarios that participants might encounter, and which could give rise to medical, mental in nature or financial problems were not included in the study. There is very little evidence of discomfort or unease during the five to ten minutes it takes to complete the questionnaire.

Plagiarism. There were no claims employed in the research that led to plagiarism. Grammar uniformity and a low level of similarity can be achieved by using Grammarly, Turnitin, or any other plagiarism checker. This allows the researcher to freely communicate the topic in her own words.

Fabrication and Falsification. It is acknowledged that the research is grounded in a variety of studies, guaranteeing that the investigator refrains from drawing any conclusions from her own writing and instead presents the authors' ideas in her own authoritative voice. To match the results, the investigation is unlikely to inflate the data or overclaim works of others. The theoretical foundation and models that are employed must originate from authentic and trustworthy sources. Additionally, the study will not witness any falsification.

Conflict of Interest. Nevertheless, an insignificant conflict of interest was identified, thus it needs to be disclosed in this research. Although the researcher was a member of the leadership team at a BPO company, you can be sure that the study will not affect any secondary interests and will only concentrate on the main goals, which include improving business decisions based on studies and participant wellbeing.

Deceit. The research gave those who participated the assurance that the information they received would not endanger them. No deceit or trickery will be required. Furthermore, the research exclusively uses in-person surveys; it makes no use of internet platforms to guarantee that any queries from participants are going to be addressed. Last but not least, the research questionnaire guarantees to be devoid of technical jargon, easily comprehensible for study participants, and providing a clear picture of potential benefits to participants following study execution.

Permission from Organization/Location. The research project began by requesting authorization to collect data from two sources: the administration of call center agencies and the University of Mindanao Professional Schools, as authorized by the dean.

Furthermore, the researcher made sure to secure formal consent from the company where the research will be conducted, or data collected. This consent is obtained through having the proprietors sign a letter granting authorization to do the study that has been submitted to them.

The owners' approved letters will act as official authorization to carry out a survey. To make sure that the call center industry was willing to have the survey conducted on their property, follow-ups were conducted. After ascertaining the willingness of supervisor or managerial staff to partake, the researcher coordinated the survey days' timetables with the call center industry's administration.

Authorship. Adhering to ethical standards in academic research, is acknowledgement of authorship which helps to credit individual contributions. The researcher serves as the first author of this research work; thus the researcher accounted the conception design, execution, and final analysis of findings. The supervisor’s key role is recognized as co-author as supervisor have guided and supported this research.

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LEADERSHIP STYLE PREFERENCES OF BSU-BUGUIAS CAMPUS FACULTY AND STAFF

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ABSTRACT

This causal-comparative study reviewed the leadership style preferences of faculty and staff of Benguet State University- Buguias Campus. A Total of 72 participants completed the research questionnaire consisting of demographic questions and the Vannsimpco Leadership Survey. A single factor, one way ANOVA (Analysis of Variance) was conducted and significant differences were identified within the nine leadership styles preferences namely, ($F [8, 639] = 47.25, p<0.01$). The statistical analysis showed collective preferences toward Democratic-Transformational Leadership (M=4.88), Democratic Leadership (M=4,48), Transformational Leadership (M=4.46). The Least preferred style was Laissez-faire Leadership (M=2.85). This study also compared leadership style preferences of participants classified as faculty versus those classified as staff. Significant differences were identified within responses for Democratic Leadership and Transactional Leadership styles.

Keywords: *leadership style, preferences, Laissez-faire, Democratic, Transactional*

INTRODUCTION

In any educational institution, leadership role is regarded as indispensable. The job of any leader is primarily meant to guide and lead the individuals in the right direction. In this way, they will be able to carry out their duties satisfactorily as well as overcome problems and challenges that may arise within the course of implementation of their roles. The heads, directors and principals of schools are the ones vested with the authority to play

leadership roles. The educators are also required to be effective leaders in guiding students towards the right direction and helping them to achieve academic goals.

It is a continuous debate whether leadership comes from the personal qualities of a leader or a leader makes followership through what she /he does or believes (Grint 2004). Grint also highlight position problems, he posed whether leadership is the true authority to decide or implement, or it is only a person in front who takes his/her directions for someone. Recent reviews take leadership as “a process whereby an individual influences a group of individuals to achieve a common goal (Northouse 2004). Another view about leadership is that it is like the Abominable Snowman, whose footprints are everywhere but who is nowhere to be seen” (Bennis and Nanus 1985). In short leadership/leader is either a person who is in charge and has authorities to take decision and also has powers to implement his/her decisions or a process having a set of other authoritative process about organization, personal or social process of influence for which the groups, teams or organizations can do more to increase their ability. The selection of the leader not only depends on the personal characteristics of the person, but also on the social and cultural factors along with his/her exposure towards life (Bolden 2010). It is then important to include the demographic profiles of respondents in this research endeavor as leadership capabilities of a leader does not only depend on personal characteristics but is also affected by social and cultural factors.

Leadership in education is a multidimensional research area. There is no denying that the most researched field in the behavioral sciences is leadership. Still, leadership theory concepts have eluded managers like a haunting melody. Much has been read, but there is not a much clearer picture in the available literature. Thus, it is essential for the individuals to hone their leadership skills. It is the main duty of the leaders to ensure and make provision for appropriate information for them to lead colleagues and to achieve the educational goals and objectives and bring about success in the overall system of education. Leaders need to provide their constituents with sufficient support and assistance to perform their tasks and activities. Leithwood et. al (2006) also mentioned that leadership is a high priority issue for many people concerned with education these days. Reformers depend on it. The public believes that it is what schools need more of thus, it is not surprising then that so many people are trying to make a living peddling their latest insights about effective educational leadership. Indeed leadership by adjective is a growth industry. We have instructional leadership, transformational leadership, moral leadership, constructivist leadership, servant leadership, cultural leadership, and primal leadership (Goleman, Boyatzis & McKee, 2002).

Leadership was integrated into the academic vocabulary of organizational studies as a term from our everyday language without being redefined. "It's not shocking, therefore, that the meanings of the term are almost as numerous as the scholars involved in their research." For example, Bennis (1989) said that "leadership is like beauty, it's difficult to define, but when you see it, you know it." Chemers (1997) offers the following

standard definition: "Leadership is a system of social influence in which one person may enlist others help and support in the fulfillment of a common task." The only assumption shared by this and most definitions is that “leadership involves a process of social influence in which one individual deliberately exerts influence over other in order to structure group or organization activities and relationships. Exploring therefore of leadership preferences of subordinates may help leaders on the guide in dealing with co- employees.

The leader in an organization can have such an impact on their followers’ performance and whether or not they will stay in the organization, it is then important to study followers’ preference for their leader’s behaviors (Howell & Costley, 2001; Buckingham & Coffman, 1999) thus, this research is conducted.

Rain (2020) stated that the advantage to understanding your leadership style is that you understand your strengths and weaknesses. You can be proactive and more effective as a leader by strategically using your strengths and counteracting your weaker areas. Your style defines your values and perspective, and being aware of it will aid your communication to those you work with. As the saying goes, knowledge is power. You can empower yourself and move forward in your career or interest by exercising this knowledge thus, this research is conducted to explore the leadership preferences of BSU- BC employees and to determine possible leadership styles that is of importance at present.

Further, this study should provide insights into best practices for schools and companies to use with different generations that might affect leadership effectiveness. Information from this study can be used by the human resource unit in developing leadership training and development interventions to enhance the effectiveness of leaders in their organization. Moreover, the result of this study will be used in enhancing the institutions’ policies on assigning since individuals in Human Resource Development (HRD) are concerned about improving human performance and unleashing human potential (Gilley, et al., 2002; Swanson &Holton, 2001), learning more about characteristics of people who work in organizations benefits the field of HRD. Increasing HRD’s ability to address generational issues in regards to leadership in the workplace is critical to improving an organization’s performance.

Improper leadership style is a problem for each public educational organization. The most important abnormal response is the dissatisfaction that appear among staff at educational organizations which considerably reduces the amount of their performance. Managers’ role is to recognize the right style of leadership based on various condition and relation for applying it in an educational organization. Many managers do not have adequate awareness and skill for generating suitable atmosphere among staff and to apply precise style at workplace. Hence, all educational organizations need to have correctly educated and aware managers for improving and managing affairs of the

organization. This study will explore the leadership style preferences of BSU-Buguias Campus faculty and staff for possible leadership trainings and seminars.

Basit et.al (2017) in their research titled “Impact of leadership style on employee performance (a case study on a private organization in Malaysia) found that there is a significant and positive impact of democratic and laissez-faire leadership styles on employee performance while autocratic leadership is found to have a negative significant impact on employee performance. Through foregoing importance of leadership styles and its impact to employees’ performance, it is therefore the aim of this research to explore the leadership preferences and to determine possible significant differences of leadership preferences between faculty and staff of Benguet State university-Buguias Campus.

Transformational Leadership Style is the darling of the leadership studies discipline, the transformational leadership method was first elaborated upon through the historical research of Burns (1978) and, later, Bass (1985). According to these works, effective transformational leadership transcends the limitations imposed by followers and organizational structure.

Burns (2003) explains, transformational leaders “cause a metamorphosis in the form or structure, a change in the very condition or nature of thing, a change into another substance, a radical change in outward form or inner character” (p. 24). These leaders achieve their results through personal charisma, charm, clear vision, and passion.

Followers of transformational leaders believe themselves valued as an individual, and often feel empowered to perform better. Transformational leadership assumes institutions need, and require, a transformation; that innovation is always preferable to the status quo, and that followers are eager to be have personal and intimate relationships with their leaders. In many ways, this definition explains as much about the researchers’ world view as it does the leadership he or she is purporting to study. If one believes in the need for constant innovation for the sake of innovation, it makes sense why transformation leadership is appealing. Many followers or organizations may not want transformation or to form emotional connections to their leader, perceiving this attempts to establish emotional bonds as poor management or emotional manipulation.

Furthermore, followers may misconstrue the emotional appeals of transformational leaders and become overly dependent upon their leader for personal validation (Stone, Russell, & Patterson, 2003). Transformational leadership can be used by leaders who lack moral guidance and seek to wield the “dark side of charisma” (Yukl, 1989) for less than desirable reasons. Although some advocates maintain that “authentic transformational leadership foster the moral values of honesty, loyalty, and fairness,” nevertheless, one cannot ignore how the traits of the transformational leader have been used for nefarious purposes. It is this realization, demonstrated through historical experiences that should place some caution upon the degree to which transformational leadership is celebrated by educators.

Since the turn of the twenty-first century, it has become more evident that effective leaders must pay close attention to the leadership style expectations of their followers, as this correlates to key factors such as employee satisfaction, retention and adherence to organizational goals (Notgrass, 2014). Complex entities such as HEIs work under mandatory policies with frequent change, creating a need for perceptive leaders at all levels to preserve stability and sustainable growth. Continued research on the perspective of followers within colleges and universities is necessary for enhanced awareness, as it not only impacts leader-follower relationships, but also student success, public perception, and financial well- being (Alonderiene & Majauskaite, 2016; Harris, Hinds, Manansingh, Rubino, & Morote, 2016). It is then important to explore the leadership preferences of BSU-Buguias campus faculty and staff to see whether there is a significant difference between their responses as Leithwood et.al (2006) stated that leadership is a high priority issue for many people concerned with education these days.

Leadership in education is a multidimensional research area. There is no denying that the most researched field in the behavioral sciences is leadership. Still, leadership theory concepts have eluded managers like a haunting melody. Much has been read, but there is not a much clearer picture in the available literature. Mews (2019) found through statistical analysis showed collective preferences toward Democratic-Transformational, democratic leadership, transformational leadership, and transactional leadership. The research result also showed that the least preferred leadership style was laissez-fair. Furthermore, significant differences were identified with in responses for democratic leadership and transactional leadership styles. This research result will further be validated in this research. Moreover, Kamisa and Wafa (2014) research result showed that the three major ethnic groups in Sabah appear to have similar leadership preference. In addition, no significant difference was found between leadership preferences and the demographic variables.

The research of Church (2012) verified in an ecclesiastical setting what is already known in the government, education, manufacturing, and other industry settings: Transformational leadership style, as perceived by the leader, is correlated with organizational growth the research determined that there is certainly a correlation between district superintendents' perceptions of their leadership styles and organizational growth as measured by church membership and worship attendance in the North American districts of the Church of the Nazarene (COTN). This research result is important in this study for it will explore the possibility of significant differences between the leadership preferences of faculty and staff of the campus.

Moreover, Kalu et al (2018) concluded that the major challenges leaders face in improving job performance of subordinates are that of subordinates not reporting to the leader who delegated authority, high expectations by subordinates from the leader and attitude of subordinates towards the leader. It is further recommended among others that subordinates who are delegated to do something should be made to know from the

beginning that they should report back to the leader. It is suggested that subsequent researches will investigate other area such as Perception of subordinates on the leadership styles adopted by management of various libraries. Thus, this research will be conducted.

METHODOLOGY

Research Design

Survey method was utilized in this study since leadership styles preferences of faculty and staff will be explored.

Research Locale and Participants

The respondents of this study are thirty-three (37) faculty and thirty-two (35) non- teaching staff of Benguet State University-Buguias Campus, Loo, Buguias, Benguet.

Research Instrument

This paper adapted the survey questionnaire developed by Drs. Barry Vann, Aaron Coleman, and Jennifer in the year 2014 because of its validity and versatility. The VLS provides reliable feedback on nine leadership styles: transactional; democratic; autocratic; autocratic-transformational; autocratic-transactional; democratic- transformational; democratic-transactional; transformational, and laissez fair. The instrument has two parts. Part I includes the profile of respondents: highest educational attainment, job status (Non –Teaching/Teaching), and length of experience. Part II consisted of 27 items whom the respondents will rate based from five scales : 5- Strongly Agree (SA); 4- Agree (A); 3-Neutral (N); 2- Disagree (D), 1- Strongly Disagree (SD). The questionnaire was again subjected for validity by the researchers. The reliability result using Cronbach's Alpha was 0.92 which indicates good reliability or internal consistency of the instrument.

Data Collection Procedure

The survey questionnaires were distributed and retrieved personally by the researchers after following the research protocols of the campus.

Data Analysis

To address the problems posed in the study, gathered data will be analyzed accordingly, frequency counts and rankings will be used to determine the leadership style preferences of respondents while Microsoft Excel and SPSS will be used to identify whether significant correlation exist between leadership style preference and demographic profile of respondents Inferential statistics were used to analyze if significant

correlation exist between the leadership style preference and profile of respondents. , and using mean coefficient to determine which leadership style preferences BSU-Buguias employees' preferred the most and the least preferred. A series of independent samples t-test were conducted to distinguish if there's a significant difference between leadership style preferences of teaching and non-teaching staff.

RESULTS AND DISCUSSION

Higher education institutions are complex and continuously-evolving organizations that require effective leaders who understand and embrace the preferences of their followers. As detailed previously, key factors such as employee job satisfaction and commitment are impacted by the leadership approach utilized by the leader(s) of the organization (Alonderiene & Majauskaite, 2016; Lussier & Achua, 2012; Northouse, 2015). While a clear need for further examination into leadership style preferences from the follower's perspective was evident based on the literature review, this viewpoint had been misrepresented through existing research (Alonderiene & Majauskaite, 2016; Eacott, 2011). This study helped address the gap in research and add value for future examination of leadership preferences within organizations. This study was developed to assess the two specific areas. The first was a comprehensive review of leadership style preferences among faculty and staff in BSU-Buguias Campus as a collective group. The second was to determine whether leadership style preferences differed between participants classified as faculty and those classified as staff.

Table 1 shows the summary of the collective preferences of the employees of BSU-Buguias for Democratic-Transformational Leadership (M=4.68), Democratic Leadership (M=4.48), Transactional Leadership (M=4.46) and Transformational Leadership (M=4.43), while the least preferred style was Laissez- faire (M=2.85). Additional statistical assessment using the single factor, one-way ANOVA was conducted on the responses, to identify significant differences in leadership style preferences among the participants within the nine leadership styles as shown in Table 2.

Given that multiple leadership styles were preferred by the participants in this study, the findings suggest that a situational approach may be necessary to effectively lead in a college or university setting. This notion aligns with existing research on situational leadership, supporting the leader's need to dictate his or her style based on the environment and followers, especially in complex organizations such as HEIs (Khan, 2017). In order to utilize the situational approach effectively, the leader must get to know his or her followers, identify their needs and preferences, and adjust leadership styles as necessary (Northouse, 2015). This supports the notion that effective leaders should employ a full range of leadership behaviors based on the situation (Avolio & Bass, 2002).

Table 1. Summary of Leadership Style Preferences

Groups	*Count*	*Sum*	*Average*	*Variance*
TRANSACTIONAL	72	321.3333	4.462963	0.270909
DEMOCRATIC	72	322.3333	4.476852	0.321835
AUTOCRATIC	72	237	3.291667	1.793232
AUTOCRATIC TRANSFORMATIONAL	72	287.6667	3.99537	0.589963
AUTOCRATIC TRANSACTIONAL	72	250.6667	3.481482	0.547383
DEMOCRATIC TRANSFORMATIONAL	72	337	4.680556	0.25489
DEMOCRATIC TRANSACTIONAL	72	298.6667	4.148148	0.63815
TRANSFORMATIONAL	72	321.3333	4.431963	0.311598
LAISSEZ FAIRE	72	205	2.847222	0.822966

The Democratic-Transformational Leadership style can be used during times of change when involvement and inclusion are desired from followers regarding the decision-making and communication process. This style can also be adopted when mentoring opportunities are presented, both for the leader and for emerging employees (Vann et al., 2014). Since it is a hybrid leadership style, the leader may need to utilize more or less Democratic or Transformational Leadership strategies, depending on the situation.

Table 2. Single factor one-way ANOVA-leadership styles

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	233.142	8	29.14275	47.25062	9.52E-60	1.952877
Within Groups	394.1158	639	0.61677			
Total	627.2577	647				

Democratic Leadership is a collaborative style that can be effective with creative groups and select followers who are open to new ideas. This approach can also lead to the discovery of untapped potential in training or professional development settings (Bavelas & Lewin, 1942; Rustin & Armstrong, 2012). Based on the findings in this study, Democratic Leadership would be more appropriate with faculty than staff, since there is a significant difference in preference between the two groups of employees.

Leaders can practice Transformational Leadership when their followers begin to plateau or decline in performance (Lussier & Achua, 2012). Transformational Leadership is often utilized to motivate followers and achieve at a higher rate through inspirational motivation and individualized consideration (Northouse, 2015). This is a leadership style preferred by both faculty and staff, and should be employed for relationship-building and continued progress in performance.

For followers who are relied on for repetitive or daily tasks, a Transactional Leadership approach may be best-suited (Lussier & Achua, 2012). This leadership style is incentive-based, and ideal for roles where projects and deadlines are the priority (Hamstra, et al., 2014). This study revealed a significant difference in preferences toward Transactional Leadership, indicating a higher preference from faculty than staff. Given the contrast between employee groups, leaders in HEIs can benefit from understanding key aspects of all leadership styles and be prepared to adjust based on the situation.

A series of independent samples t-tests were conducted whether leadership style preferences differed between those classified as faculty and those classified as staff. The data were assessed for each of the nine leadership styles and the results revealed significant difference in preferences toward Democratic Leadership and Transactional Leadership. Faculty participants scored Democratic Leadership (M=4.61) and Transactional Leadership (M=4.28) highest of the nine styles, while staff participants scored both styles lower. These results are worth noting, as HEI leaders with supervisory responsibilities for both faculty and staff may need to adjust their approach based on the roles of their subordinates.

Table 2. Summary of independent samples t-tests for a comparison of leadership style preferences between faculty and staff

Leadership Style Tested	Teaching Mean	Non-teaching Mean	Results		Significant Difference
			t- stat	*p-value*	
DEMO-TRANSACTIONAL	4.21	4.09	0.6423	0.5228	No
DEMO-TRANSFORMATIONAL	4.54	4.56	1.9628	0.0541	No
AUTO-TRANSFORMATIONAL	4.12	3.87	1.3920	0.1683	No
TRANSFORMATIONAL	4.55	4.31	0.9791	0.3308	No
DEMOCRATIC	4.61	3.41	2.4173	0.0182	Yes
TRANSACTIONAL	4.79	3.37	2.9248	0.0047	Yes
AUTOCRATIC	2.86	3.74	1.3630	0.1480	No
LAISSEZ-FAIRE	2.98	2.70	1.3023	0.1971	No
AUTO-TRANSACTIONAL	3.61	3.34	1.5781	0.1195	No

Critical value $f_{0.05}(8, inf.)$= 1.94
Critical value $f_{0.01}(8, inf.)$= 2.51
Reference: Ronald E Walpole. INTRODUCTION TO STATISTICS Second Edition pg. 310

Conclusions

This study addressed a gap in research by assessing leadership style preferences among faculty and staff in higher education institutions. The findings showed an overall preference toward Democratic-Transformational Leadership (M = 4.25), with additional support for Democratic Leadership (M = 4.21), Transformational Leadership (M = 4.21), and Transactional Leadership (M = 4.20). The least preferred style was Laissez-faire Leadership (M = 2.63). A single factor, one-way ANOVA found significant differences within the nine leadership styles.

Significant differences in leadership style preferences were identified between participants classified as faculty and those classified as staff. Independent samples t-tests revealed significant differences in preference toward Democratic Leadership and Transactional Leadership. Faculty participants preferred Democratic Leadership (M = 4.30) and Transactional Leadership (M = 4.28) at a significantly higher level than staff participants (lower than M = 3.42 for both styles).

The conclusions provide a sense of which leadership styles are preferred, while also acknowledging that followers may prefer a different leadership approach than others based on their role. These findings can be used to provide awareness for current and future leaders within complex organizations such as HEIs. The results can also aid future studies involving organizational and higher education leadership as the underrepresented viewpoint of the follower continues to be examined.

Recommendations

Based on the study's conclusions, recommendations include the Empower the specified leadership style together with its auxiliary attributes. To support leadership effectiveness, triangulate results using leaders' sourced viewpoints data and qualitative methodologies. Subsequent investigations could broaden the scope of this analysis by incorporating more participants from additional HEIs. Extra demographic inquiries, such as those concerning work satisfaction and dedication from employees, may offer proof to substantiate the relationship between preferred leadership styles and employee job satisfaction.

Compliance with Ethical Standards

The researchers demonstrated exemplary conduct throughout the study, adhering to research standards by employing appropriate language, methodologies, and comments. Initial steps involved obtaining permission from relevant authorities within the university, whose endorsement paved the way for data collection. Clear communication about the study's purpose was provided to respondents both verbally and through a letter accompanying the survey guide. The respondents were assured of their autonomy to choose which interview questions to answer. To ensure confidentiality, responses were

treated with utmost privacy, and respondents were randomly approached for follow-up interviews. The researchers sought explicit permission for the utilization of respondents' responses for the study's intended purpose. In the subsequent analysis, interpretation, and discussion, the researchers maintained objectivity and impartiality, transitioning seamlessly from respondents' individual experiences to the broader universal essence of the subject under consideration. This work received no specific grant from any funding agency. The authors declare that they have no conflicts of interest

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LEARNERS' ATTITUDE AND SELF-EFFICACY TOWARDS ENGLISH LANGUAGE LEARNING AT MINDANAO STATE UNIVERSITY – SULU

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ABSTRACT

This study assessed the extent of learners' attitude and self-efficacy towards English language learning in terms of emotional aspects, cognitive aspects, and behavioral aspects during the School Year 2023-2024. With 100 samples taken through stratified sampling method, and with the use of weighted mean, standard deviation, t-test for independent samples, One-way ANOVA, and Pearson's r, this study reveals the following findings:1) Of the 100 student-respondents, mostly are female within the range of 19-21years old, who are mostly enrolled as fourth year level; 2) On the average, there is high extent of learners' attitude towards English language learning in terms of emotional aspects, cognitive aspects, and behavioral aspects; 3) On the average, there is high level of learners' self-efficacy towards English language learning; 4) Generally, variables gender, age, and year level do not significantly mediate in ways how students assessed the learners' attitude towards English language; 5) Generally, variables gender, age, and year level do not significantly mediate in ways how students assessed the level of learners' self-efficacy towards English language; 6) Generally, the group student- respondents who perceived the learners' attitude towards English language learning as Agree or with High Extent may probably the same group of teachers who perceived the level of learners' self-efficacy towards English language learning as Agree or with High Extent, respectively; 7) This study seems to support Bandura (1986) Social Learning Theory which asserts that learning takes place via observation, imitation, and modeling, and is impacted by variables including attention, motivation, attitudes, and emotions. The

theory also explains how the learning process is influenced by the interaction between cognitive and environmental factors.

Keywords: *learners' attitude, self-efficacy, English language learning, Mindanao State University-Sulu*

INTRODUCTION

In today's globalized world, there is a significant need for individuals to learn and possess the ability to communicate effectively in English across different domains. English language proficiency has become a crucial skill in meeting this demand. Hence, it is crucial to understand deeper learners' attitudes and self-efficacy towards English language learning, as these psychological factors have a substantial impact on learners' motivation and achievements in the process of acquiring the language.

The impact of attitudes towards language learning on learners' achievement and involvement has been widely acknowledged (Dörnyei, 2005). They influence learners' attitudes and feelings towards the language, affecting their drive, diligence, and perseverance in language learning activities. Higher levels of motivation and drive to achieve proficiency have been associated with positive attitudes towards English learning (Gardner, 1985). In contrast, unfavorable attitudes can obstruct the advancement of learners and discourage their inclination to actively participate in language learning (Dörnyei, 2005). Gaining insight into learners' attitudes towards the process of learning the English language is crucial for identifying possible obstacles and developing successful approaches to promote favorable attitudes and increase motivation.

Self-efficacy, a concept introduced by Bandura (1977), pertains to an individual's confidence in their ability to effectively carry out particular tasks. Self-efficacy beliefs have a significant impact on predicting learners' academic performance in the context of language learning (Wigfield & Eccles, 2000). Individuals with a heightened sense of self- efficacy exhibit confidence, perseverance, and a readiness to exert themselves when undertaking language learning tasks, leading to improved language proficiency outcomes (Bandura, 1977). Gaining an understanding of learners' self-efficacy beliefs regarding English language learning can offer valuable insights into how to assist learners in cultivating confidence and resilience throughout their language learning process. In the study of Tahmassian and Moghadam (2011), in the state of student's who have lower self-efficacy, struggles in mental health concerning emotional problems and social problems will likely to occur, which then results to hamper English language learning.

Although there have been numerous studies that have individually explored attitudes and self-efficacy in language learning, there is a scarcity of research that has examined how these two factors are interconnected and how they collectively impact the outcomes of English language learning. Learner's attitudes and self-efficacy are two critical factors that significantly influence the learning process and subsequent English language learning. By investigating learner's attitude on the area of emotional aspect, cognitive aspect, behavioral aspect and the level of learner's efficacy, it will provide valuable insights into the mechanisms that underpin knowledge towards effective English language learning.

This research aimed to gain a comprehensive understanding of the intricate connections between learners' attitudes and self-efficacy, and how these psychological factors influence their English language learning. By delving into the mechanisms through which learner's attitude and self-efficacy influences individuals' decision-making processes and actions, this study seeks to contribute to a better understanding of the underlying factors that determine one's confidence in their ability to succeed.

Statement of the Problem

This study examines the learners' attitude and self-efficacy towards English language learning. Specifically, it attempts to find answers to the following questions:

1. What is the demographic profile of the respondents, specifically in terms of:
    1.1.1 age
    1.1.2 gender;
    1.1.3 year level?
2. What is the learners' attitude towards English language learning in terms of:
    2.1.1 emotional aspects;
    2.1.2 cognitive aspects; and
    2.1.3 behavioral aspects
3. What is the level of learners' self-efficacy in English language learning?
4. Is there a significant difference in learners' attitude towards English language learning when the data are classified in terms of:
    4.1.1 age;
    4.1.2 gender; and
    4.1.3 year level?
5. Is there a significant difference in the level of learners' self-efficacy in English language learning when the data are classified in terms of:
    5.1.1 age;
    5.1.2 gender; and
    5.1.3 year level?
6. Is there a significant correlation between learners' attitude and self-efficacy towards English language learning?

METHODOLOGY

This section presents the research design, research locale, respondents of the study, sampling design, data gathering procedure, research instrument, validity and reliability, and statistical treatment of data.

Research Design

This study used descriptive research design. Salaria (2012) stated in his study entitled "Meaning of the Term- Descriptive Survey Research Method" that according to

Aggarwal (2008) descriptive research is concerned with the interpretation and description of prominent concepts gathered regarding various situations.

Research Locale

The setting of the study was conducted at Mindanao State University – Sulu particularly at the College of Education. It is located at Capitol Site, Jolo, Sulu, Philippines.

Respondents of the Study

The respondents of this study consist of students enrolled in the Bachelor of Secondary Education program, specializing in English, at the College of Education, Mindanao State University - Sulu, during the academic year 2023-2024.

Figure 1.2

Distribution of the

Respondents

Year Level	Population	Frequency
1st Year	75	21
2nd Year	80	26
3rd Year	78	24
4th Year	98	29
TOTAL	**331**	**100**

Sampling Design

In this study, stratified random sampling design was utilized. Mason et al. (2003) in order to implement stratified random sampling, a population is subdivided into strata or subgroups according to particular characteristics or variables. Similar-looking subsets of the population are represented by each stratum.

In other words, with stratified random sampling, the target population is divided into separate subgroups, or strata, based on certain traits. The sample size is set for each stratum, and people are chosen at random within each stratum using techniques such as simple random sampling. This process makes sure that the sample is a good representation of the whole population. It also gives a more accurate picture of the population by taking into account differences between the subgroups. Researchers can draw valid conclusions about the whole community from the samples they choose from each stratum by using this design.

Data Gathering Procedure

Before gathering the data needed, the researcher presented the survey questionnaire to the research adviser for modification purposes. Afterwards, the researcher then attached the modified survey questionnaire to the letter that was sent to the two (2) research panelists for validation purposes.

Upon approval to start launching the said modified survey questionnaire, the researcher sent letters to the following: Firstly, the researcher sent letter to the Chancellor, Mindanao State University – Sulu to get a consent to conduct the said study in one of the colleges of the said prestigious institution. Secondly, the researcher sent letter to the Dean, College of Education of Mindanao State University – Sulu to get a permission to conduct the study on the said prestigious department. Lastly, the researcher provided letter to the students who served as the respondents of the study.

The modified survey questionnaire was launched on the first semester of school year 2023-2024. The researcher expected that the retrieval of the said survey questionnaire will not be less than 90 percent.

Research Instrument

In this research, two (2) adopted survey questionnaires were used as part of the research instrument of this study.

This research survey questionnaire was divided into three parts. The first part contains the demographic profile of the respondents of the study. The second part of the survey questionnaire was adopted from the survey administered by Abidin et al. (2012) in his research study. And the last part of the survey questionnaire was adopted from the study of Torres and Alieto (2019) in the Philippines, which was patterned from the surveys administered by Clement and Kruidenier (1983), Clement et al. (1994), and Ely (1986) in foreign settings.

The following 5-point Likert Scale was used in the analysis and interpretation of the data collected from the respondents.

Figure 1.3

Rating Scale and Intervals with the Verbal Description

Figure 1.3 was used to determine the learners' attitude towards English language learning in terms of the following: emotional aspects, cognitive aspects and behavioral aspects.

Rating Scale	Rating Interval	Verbal Description
1	1.0-1.49	Strongly Agree
2	1.5-2.49	Agree
3	2.5-3.49	Uncertain
4	3.5-4.49	Disagree

5	4.5-5.0	Strongly Disagree

Figure 1.4

Rating Scale and Intervals with the Verbal Description

Figure 1.4 was used to find out the level of learners' self-efficacy in English language learning.

Rating Scale	Rating Interval	Verbal Description
1	1.0-1.49	Highly Confident
2	1.5-2.49	Confident
3	2.5-3.49	Moderately Confident
4	3.5-4.49	Less Confident
5	4.5-5.0	Not Confident

Validity and Reliability

In this study, the researcher will adopt two survey questionnaires to examine Learners' Attitude and Self-Efficacy Towards English Language Learning. Korb (2012) emphasizes that a researcher is not required to collect validity evidence when the instrument is adopted, as the findings and conclusions of reliability and validity research studies that have been performed on that instrument can be applied to on his/her study.

However, to suit its applicability to the local settings, these questionnaires were subjected for perusal to two panel of experts from the faculty member of the school of graduate studies of Sulu State College.

Statistical Treatment of Data

The computer application SPSS was used by the researcher to assist in the calculations made using the collected data. The appropriate statistical tools were applied to the following:

1. To determine the demographic profile of the respondents Frequency and Percentage were used.
2. To determine the learners' attitude towards English language learning in terms of emotional aspects, cognitive aspects and behavioral aspects Weighted Mean were utilized.
3. To find out the level of learners' self-efficacy in English language learning Weighted Mean were also employed.

4. To examine if there is a significant difference in learners' attitude towards English language learning, T-test was used when the data are classified in terms of gender; and One Way ANOVA was utilized when the data are classified in terms of age and year level**.**
5. To investigate if there is a significant difference in the level of learners' self-efficacy in English language learning, T-test was employed when the data are classified in terms of gender; and One Way ANOVA was used when the data are classified in terms of age and year level**.**
6. To assess if there is a significant correlation between learners' attitude and self- efficacy towards English language learning Pearson Correlation Coefficient (r) was utilized.

RESULTS AND DISCUSSIONS

This section deals with the presentations, analyses and interpretations of results based on the data obtained for this study. Specifically, it also presents students' demographic profiles in terms of gender, age, and year level; the learners' attitude and self-efficacy towards English language learning; significant difference in the learners' attitude and self-efficacy towards English language learning; and the significant correlation among the sub-categories subsumed under the learners' attitude and self- efficacy towards English language learning in the context of emotional aspects, cognitive aspects, and behavioral aspects.

Based upon proper scoring and statistical treatments of data gathered for this study, the following are the presentations, analyses and interpretations of results which correspond to each of the research questions:

Table 1.1 Demographic profile of the teacher-respondents in terms of gender

Gender	Number of Students	Percent
Male	44	44.0%
Female	56	56.0%
Total	**100**	**100%**

Table 1.1 shows the demographic profile of the student-respondents in terms of gender. It can be gleaned from this table that out of 100 student-respondents, 44 (44.0%) are male and 56 (56.0%) are female. This means that, more than one-half of the student- respondents involved in this study are female which is a bit higher in number than male respondents. This result implies that female respondents constitute the majority in number than their male counterpart for the Academic Year 2023-2024.

Table 1.2 Demographic profile of student-respondents in terms of age

Age	Number of Students	Percent
18 years old & below	5	5.0%
19-21 years old	53	53.0%
22-24 years old	37	37.0%
25 years old & above	5	5.0%
Total	**100**	**100%**

Table 1.2 presents the demographic profile of student-respondents in terms of age. It can be gleaned from this table that out of 100 student-respondents, 5 (5.0%) are within 18 years old & below of age bracket, 53 (53.0%) are within 19-21 years old, 37 (37.0%) are within 22-24 years old, and 5 (5.0%) are within 25 years old & above. This means that, more than one-half of the student-respondents involved in this study are within the age range of 19-21 years old.

Table 1.3 Demographic profile of learner-respondents in terms of year level

Year Level	Number of Respondents	Percent
First year	21	21.0%
Second year	26	26.0%
Third year	24	24.0%
Fourth year	29	29.0%
Total	**100**	**100%**

Table 1.3 presents the demographic profile of student-respondents in terms of year level. It can be gleaned from this table that out of 100 student-respondents, 21 (21.0%) are first year, 26 (26.0%) are second year, 24 (24.0%) are third year, and 29 (29.0%) are fourth year level. This means that, all year levels are represented by nearly the same number of students but many from them are fourth year level.

Table 2.1 Learners' attitude towards English language learning in terms of emotional aspects

	Statements	Mean	S.D.	Rating
1	I feel proud when studying English language.	4.5600	.57419	Strongly Agree
2	I feel excited when I communicate in English with others.	4.2600	.73333	Agree
3	I don't get anxious when I have to answer a question in my English class.	3.5000	.96922	Agree
4	Studying foreign languages like English is enjoyable	4.2600	.78650	Agree
5	To be inquisitive makes me study English well.	3.9800	.77824	Agree
6	Studying English makes me have good emotions (feelings).	3.9800	.81625	Agree
7	I prefer studying in my mother tongue rather than any other foreign language.	3.0300	1.1845	Undecided
8	I enjoy doing activities in English.	4.1600	.72083	Agree
9	I do not like studying English.	1.8100	1.1780	Disagree
10	I wish I could speak English fluently.	4.7500	.68718	Strongly Agree
11	I am interested in studying English.	4.7500	.55732	Strongly Agree

12	Studying English subject makes me feel more confident.	4.4000	.82878	Agree
13	To be honest, I really have little interest in my English class.	3.1300	1.3382	Undecided
14	Knowing English is an important goal in my life.	4.4200	.66939	Agree
15	I look forward to the time I spend in English class.	4.2000	.71067	Agree
	Total Weighted Mean	**3.9460**	**.35260**	**Agree**

Legend: (5)4.50-5.00= Strongly Agree (SA); (4) 3.50–4.49= Agree (A); (3) 2.50–3.49= Undecided (U); (2) 1.50–2.49=Disagree (D); (1) 1.00 – 1.49= Strongly Disagree (SD)

Table 2.1 shows the learners' attitude towards English language learning in terms of emotional aspects. Under this category, students' assessment has total weighted mean score of 3.9460 with standard deviation of .35260 which is rated as **Agree** or with **High Level.** This result indicates that student-respondents involved in this study expressed that they have high level of feelings and emotions towards English language learning. That is, they feel proud when studying English language excited to communicate in English with others.

Specifically, from among the items under this category, student-respondents rated as Agree or with High level the following items: "I feel excited when I communicate in English with others", "I don't get anxious when I have to answer a question in my English class", "Studying foreign languages like English is enjoyable", "To be inquisitive makes me study English well", "Studying English makes me have good emotions (feelings)", "I enjoy doing activities in English", "Studying English subject makes me feel more confident", "Knowing English is an important goal in my life", and "I look forward to the time I spend in English class".

Table 2.2 Learners' attitude towards English language learning in terms of cognitive aspects

	Statements	Mean	S.D.	Rating
1	Studying English is important because it will make me more educated.	4.4242	.82178	Agree
2	Being good at English will help me study other subjects well.	4.5354	.78653	Strongly Agree
3	I have more knowledge and more understanding when studying English.	4.1616	.75196	Agree
4	I like my English class so much; I look forward to studying more English in the future.	4.5051	.62879	Strongly Agree
5	Studying English helps me getting new information in which I can link to my previous knowledge.	4.4646	.61134	Agree
6	I cannot summarize the important points in the English subject content by myself.	3.1010	1.1649	Undecided
7	Frankly, I study English just to pass the exams.	2.3838	1.2264	Undecided
8	In my opinion, people who speak more than one language are very knowledgeable.	4.0101	1.0832	Agree
9	Studying English helps me communicate in English effectively.	4.3939	.72588	Agree
10	I cannot apply the knowledge from English subject in my real life.	2.3434	1.2051	Disagree
11	Studying English makes me able to create new thoughts.	4.2727	.72588	Agree
12	I am able to think and analyze the content in English language.	3.9697	.73477	Agree

13	I am not satisfied with my performance in the English subject.	3.3030	1.0147	Undecided
14	In my opinion, English language is difficult and complicated to learn.	3.3939	.92381	Undecided
15	English subject has the content that covers many fields of knowledge.	4.1818	.71946	Agree
	Total Weighted Mean	**3.8296**	**.39832**	**Agree**

Legend: (5)4.50-5.00= Strongly Agree (SA); (4) 3.50–4.49= Agree (A); (3) 2.50–3.49= Undecided (U); (2) 1.50–2.49=Disagree (D); (1) 1.00 – 1.49= Strongly Disagree (SD)

Table 2.2 shows the learners' attitude towards English language learning in terms of cognitive aspects. Under this category, students' assessment has total weighted mean score of 3.8296 with standard deviation of .39832 which is rated as **Agree** or with **High Level.** This result indicates that student-respondents involved in this study expressed that they have high level aspects of attitudes relative to their beliefs, thoughts or viewpoints about English language learning.

Specifically, from among the items under this category, student-respondents rated as Agree or with High level the following items: "Studying English is important because it will make me more educated", "I have more knowledge and more understanding when studying English", "Studying English helps me getting new information in which I can link to my previous knowledge", "In my opinion, people who speak more than one language are very knowledgeable", "Studying English helps me communicate in English effectively", "Studying English makes me able to create new thoughts", and "I am able to think and analyze the content in English language".

Table 2.3 Learners' attitude towards English language learning in terms of behavioral aspects

	Statements	Mean	S.D.	Rating
1	Speaking English anywhere makes me feel worried.	3.0900	1.0356	Undecided
2	Studying English helps me to have good relationships with friends.	3.6800	.91982	Agree
3	I like to give opinions during English lessons.	3.7200	.92201	Agree
4	I am able to make myself pay attention during studying English.	4.1200	.70036	Agree
5	When I hear a student in my class speaking English well, I like to practice speaking with him/her.	4.3500	.71598	Agree
6	Studying English makes me have more confidence in expressing myself.	4.1500	.78335	Agree
7	Studying English helps me to improve my personality.	4.1800	.78341	Agree
8	I put off my English homework as much as possible.	3.3900	.95235	Undecided
9	I am not relaxed whenever I have to speak in my English class.	3.0500	1.0576	Undecided
10	I feel embarrassed to speak English in front of other students.	3.1900	1.1694	Undecided
11	I like to practice English the way native speakers do.	4.2400	.76700	Agree
12	I wish I could have many English-speaking friends.	4.3800	.76251	Agree

13	When I miss the class, I never ask my friends or teachers for the homework on what has been taught.	2.3900	1.2300	Disagree
14	I do not feel enthusiastic to come to class when the English is being thought.	2.4100	1.2640	Disagree
15	I do not pay any attention when my English teacher is explaining the lesson.	1.8800	1.2083	Disagree
	Total Weighted Mean	**3.4813**	**.42625**	**Undecided**

Legend: (5)4.50-5.00= Strongly Agree (SA); (4) 3.50–4.49= Agree (A); (3) 2.50–3.49= Undecided (U); (2) 1.50–2.49=Disagree (D); (1) 1.00 – 1.49= Strongly Disagree (SD)

Table 2.3 shows the learners' attitude towards English language learning in terms of behavioral aspects. Under this category, students' assessment has total weighted mean score of 3.4813 with standard deviation of .42625 which is rated as **Undecided** or with **Moderate Level.** This result indicates that student-respondents involved in this study expressed that they have moderate level aspects of attitudes relative to their behaviors and reactions towards English language learning.

Specifically, from among the items under this category, student-respondents rated as Undecided or with Moderate level the following items: "Speaking English anywhere makes me feel worried", "I put off my English homework as much as possible", "I am not relaxed whenever I have to speak in my English class", "I am not relaxed whenever I have to speak in my English class", and "I feel embarrassed to speak English in front of other students".

Table 3. Level of learners' self-efficacy in English language learning

	Statements	Mean	S.D.	Rating
1	Listen to and understand the main ideas of a televised public service announcement in English.	3.9900	.84680	Confident
2	Listen to and understand the details of short conversations in English.	4.2000	.71067	Confident
3	Listen to and understand the main ideas of a short-televised news report in English.	4.0500	.70173	Confident
4	Listen to and comprehend the details of conversations in English documentaries, films, songs and television programs.	4.0200	.73828	Confident
5	Listen to and comprehend the idea given in a lecture delivered by an English speaker.	4.1700	.71145	Confident
6	Recite in English class fluently.	3.3000	1.0298	Moderately Confident
7	Deliver report using English as the medium.	3.5200	.79747	Confident
8	Deliver solo performances like oration, and declamation and some modes of public speaking.	3.2500	1.0766	Moderately Confident
9	Read and understand the main ideas of print ads in English.	3.8300	.79207	Confident
10	Read and understand the main ideas of a short English article.	3.9700	.67353	Confident
11	Read and understand the news articles and features in an English newspaper.	3.8600	.80428	Confident
12	Read and understand instructions in manuals of gadgets or appliances.	3.8800	.84423	Confident

13	Read and understand the details of a poem, essay, short story and novels in English.	4.0800	.80000	Confident
14	Write a business letter in English.	3.5300	.98939	Confident
15	Write a short narrative with correct English.	3.5700	.98734	Confident
16	Write a long narrative with correct English.	3.5100	1.0492	Confident
17	Engage in an informal conversation using English.	3.6300	.99143	Confident
18	Communicate ideas in English clearly and correctly.	3.5100	1.0395	Confident
19	Engage in academic discussion using English language.	3.6100	1.0039	Confident
20	Communicate ideas effectively and efficiently in English written discourse.	3.4300	.95616	Moderately Confident
	Total Weighted Mean	**3.7455**	**.58409**	**Confident**

Legend: (5)4.50-5.00= Highly Confident; (4) 3.50–4.49= Confident; (3) 2.50–3.49= Moderately Confident; (2) 1.50–2.49=Less Confident; (1) 1.00 – 1.49= Not Confident

Table 3 shows the level of learners' self-efficacy in English language learning. Under this category, students' assessment has total weighted mean score of 3.7455 with standard deviation of .58409 which is rated as **Confident.** This result indicates that student-respondents involved in this study expressed confidence that they have the ability to successfully learn the English language.

Specifically, from among the items under this category, student-respondents rated as Confident level the following items: "Listen to and understand the main ideas of a televised public service announcement in English", "Listen to and understand the details of short conversations in English", "Listen to and understand the main ideas of a short- televised news report in English", "Listen to and comprehend the details of conversations in English documentaries, films, songs and television programs", "Read and understand the main ideas of print ads in English", "Read and understand the main ideas of a short English article", "Read and understand the news articles and features in an English newspaper", "Read and understand instructions in manuals of gadgets or appliances", and "Read and understand the details of a poem, essay, short story and novels in English".

Table 4.1 Differences in learners' attitude towards English language learning when the data are classified in terms of gender

VARIABLES	Grouping	Mean	S. D.	Mean Difference	*t*	Sig.	Description
Emotional Aspects	Male	3.9273	.31263	-.03515	-.489	.626	Not Significant
	Female	3.9624	.38656				
Cognitive Aspects	Male	3.8212	.43104	-.01212	-.148	.882	Not Significant
	Female	3.8333	.37685				
Behavioral Aspects	Male	3.5348	.42977	.09970	1.154	.252	Not Significant
	Female	3.4352	.42530				

*Significant at alpha 0.05

Table 4.1 shows the differences in learners' attitude towards English language learning when the data are classified in terms of gender. It can be gleaned from this table that the values of mean differences of categories subsumed under the learners' attitude towards English language learning are not significant at alpha .05. This means that male and female student-respondents do not differ in their perceptions towards the learners' attitude towards English language learning. This finding implies that being a male student- respondent may not necessarily put him in vantage point towards perceiving the learners' attitude towards English language learning than his female counterpart, or vice versa.

Hence, it is safe to say that variable gender has indeed no significant influence in the ways how student-respondents assess the learners' attitude towards English language learning. Therefore, the hypothesis which states that "There is no significant difference in learners' attitude towards English language learning when the data are classified in terms of gender" accepted.

Table 4.2 Differences in the learners' attitude towards English language learning when the data are classified in terms of age

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Emotional Aspects	Between Groups	.295	3	.098	.787	.504	Not Significant
	Within Groups	12.013	96	.125			
	Total	12.308	99				
Cognitive Aspects	Between Groups	.232	3	.077	.480	.697	Not Significant
	Within Groups	15.316	95	.161			
	Total	15.549	98				
Behavioral Aspects	Between Groups	1.067	3	.356	2.017	.117	Not Significant
	Within Groups	16.921	96	.176			
	Total	17.987	99				

*Significant alpha .05

Table 4.2 presents the differences in the learners' attitude towards English language learning when the data are classified in terms of age. It can be gleaned from this table that the values of F-ratios and *P*-values of all the sub-categories subsumed under the learners' attitude towards English language learning are not significant at alpha
.05. This means that even though student-respondents vary in age range, yet they do not differ in their perceptions towards the learners' attitude towards English language learning. This result implies that being a 25 years old & above may not necessarily put a student-respondent in vantage point towards perceiving the learners' attitude towards English language learning than those students within 18 years old & below, 19-20, and 21-24 years old, or vice versa.

Nonetheless, it is safe to say that variable age has no significant mediation in ways how student-respondents assess the learners' attitude towards English language learning. Therefore, the hypothesis which states that "There is no significant difference in learners' attitude towards English language learning when the data are classified in terms of age" is accepted.

Table 4.3 Differences in the learners' attitude towards English language learning when the data are classified in terms of year level

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Emotional Aspects	Between Groups	.552	3	.184	1.503	.219	Not Significant
	Within Groups	11.756	96	.122			
	Total	12.308	99				
Cognitive Aspects	Between Groups	1.431	3	.477	3.211*	.026	Significant
	Within Groups	14.117	95	.149			
	Total	15.549	98				
Behavioral Aspects	Between Groups	1.081	3	.360	2.047	.112	Not Significant
	Within Groups	16.906	96	.176			
	Total	17.987	99				

*Significant alpha .05

Table 4.3 presents the differences in the learners' attitude towards English language learning when the data are classified in terms of year level. It can be gleaned from this table that, except for "Cognitive Aspects" the values of F-ratios and *P*-values of all other sub-categories subsumed under the learners' attitude towards English language learning are not significant at alpha .05. This means that even though student- respondents vary in year level, yet they do not differ in their perceptions towards the learners' attitude towards English language learning. This result implies that being enrolled as fourth year level may not necessarily put a student-respondent in vantage point towards perceiving the learners' attitude towards English language learning than those students enrolled as first year, second year, and third year levels, or vice versa.

Nonetheless, it is safe to say that variable year level has no significant mediation in ways how student-respondents assess the learners' attitude towards English language learning. Therefore, the hypothesis which states that "There is no significant difference in learners' attitude towards English language learning when the data are classified in terms of year level" is accepted.

Table 5.1 Differences in the level of learners' self-efficacy in English language learning when the data are classified in terms of gender

VARIABLES	Grouping	Mean	S. D.	Mean Difference	*t*	Sig.	Description
Learner's Self-Efficacy	Male	3.7591	.53410	.01364	.115	.909	Not Significant
	Female	3.7455	.62578				

*Significant at alpha 0.05

Table 5.1 shows the differences in the level of learners' self-efficacy in English language learning when the data are classified in terms of gender. It can be gleaned from this table that the value of mean difference of level of learners' self-efficacy in English language learning is not significant at alpha .05. This means that male and female student-respondents do not differ in their perceptions towards the level of learners' self- efficacy in English language learning. This finding implies that being a male student- respondent may not necessarily put him in vantage point towards perceiving the level of learners' self-efficacy in English language learning than his female counterpart, or vice versa.

Hence, it is safe to say that variable gender has indeed no significant influence in the ways how student-respondents assess the level of learners' self-efficacy in English language learning. Therefore, the hypothesis which states that "There is no significant difference in the level of learners' self-efficacy in English language learning when the data are classified in terms of gender" is accepted.

Table 5.2 Differences in the level of learners' self-efficacy in English language learning when the data are classified in terms of age

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Learner' Self-Efficacy	Between Groups	.681	3	.227	.659	.580	Not Significant
	Within Groups	33.094	96	.345			
	Total	33.775	99				

*Significant alpha .05

Table 5.2 presents the differences in the level of learners' self-efficacy in English language learning when the data are classified in terms of age. It can be gleaned from this table that the F-ratio and *P*-value of the level of learners' self-efficacy in English language learning is not significant at alpha .05. This means that even though student- respondents vary in age range, yet they do not differ in their perceptions towards the level of learners' self-efficacy in English language learning. This result implies that being a 25

years old & above may not necessarily put a student-respondent in vantage point towards perceiving the level of learners' self-efficacy in English language learning than those students within 18 years old & below, 19-20, and 21-24 years old, or vice versa.

Nonetheless, it is safe to say that variable age has no significant mediation in ways how student-respondents assess the level of learners' self-efficacy in English language learning. Therefore, the hypothesis which states that "There is no significant difference in the level of learners' self-efficacy in English language learning when the data are classified in terms of age" is accepted.

Table 5.3 Differences in the level of learners' self-efficacy in English language learning when the data are classified in terms of year level

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Learner' Self-Efficacy	Between Groups	.437	3	.146	.420	.739	Not Significant
	Within Groups	33.338	96	.347			
	Total	33.775	99				

*Significant alpha .05

Table 5.3 presents the differences in the level of learners' self-efficacy in English language learning when the data are classified in terms of year level. It can be gleaned from this table that the F-ratio and *P*-value of the level of learners' self-efficacy in English language learning is not significant at alpha .05. This means that even though student- respondents vary in year level, yet they do not differ in their perceptions towards the level of learners' self-efficacy in English language learning. This result implies that being enrolled as a fourth year level may not necessarily put a student-respondent in vantage point towards perceiving the level of learners' self-efficacy in English language learning than those students enrolled as first year, second year, and third year levels, or vice versa.

Nonetheless, it is safe to say that variable year level has no significant mediation in ways how student-respondents assess the level of learners' self-efficacy in English language learning. Therefore, the hypothesis which states that "There is no significant difference in the level of learners' self-efficacy in English language learning when the data are classified in terms of year level" is accepted.

Table 6. Correlation between learners' attitude and self-efficacy towards English language learning

Variables		Pearson *r*	Sig	N	Description
Dependent	**Independent**				
Learners' Self-Efficacy	Learners' Attitude	.225*	.025	100	Low

*Correlation Coefficient is significant at alpha .05
Correlation Coefficient Scales Adopted from Hopkins, Will (2002): 0.0-0.1=Nearly Zero; 0.1-0.30=Low; .3-0.5 0=Moderate; .5-0.7-0=High; .7-0.9= Very High; 0.9-1=Nearly Perfect

Table 6 illustrates the correlation between learners' attitude and self-efficacy towards English language learning. It can be gleaned from this table that the computed Pearson Correlation Coefficients (Pearson r) between these variables is indeed significant at alpha .05.

Specifically, the degree of correlation between learners' attitude and self-efficacy towards English language learning is as follows:

1) Low positive correlation between learners' attitude and self-efficacy towards English language learning.

These results indicate that the group student-respondents who perceived the learners' attitude towards English language learning as Agree or with High Extent may probably the same group of teachers who perceived the level of learners' self-efficacy towards English language learning as Agree or with High Extent, respectively.

Meanwhile, it is safe to say that, generally the learners' attitude and level of self- efficacy towards English language learning is lowly correlated.

Therefore, the hypothesis which states that, "There is no significant correlation between learners' attitude and self-efficacy towards English language learning" is rejected.

CONCLUSIONS

This study envisioned to determine the learners' attitude and level of self-efficacy towards English language learning among education students at Mindanao State University – Sulu during the School Year 2023-2024; and the significant differences and correlation among these variables when data are grouped according to gender, age, and year level.

The following are the conclusions made based on the findings of this study:

1) Student-respondents involved in this study are adequately represented in terms of gender, age, and year level.

2) On the average, there is high extent of learners' attitude towards English language learning in terms of emotional aspects, cognitive aspects, and behavioral aspects.

3) On the average, there is high level of learners' self-efficacy towards English language learning.

4) Generally, variables gender, age, and year level do not significantly mediate in ways how students assessed the learners' attitude towards English language.

5) Generally, variables gender, age, and year level do not significantly mediate in ways how students assessed the level of learners' self-efficacy towards English language.

6) Generally, the group student-respondents who perceived the learners' attitude towards English language learning as Agree or with High Extent may probably the same group of teachers who perceived the level of learners' self-efficacy towards English language learning as Agree or with High Extent, respectively.

7) This study seems to support Bandura (1986) Social Learning Theory which asserts that learning takes place via observation, imitation, and modeling, and is impacted by variables including attention, motivation, attitudes, and emotions. The theory also explains how the learning process is influenced by the interaction between cognitive and environmental factors.

RECOMMENDATIONS

This study recommends the following based on the above findings and conclusions:

1) School administrators may formulate programs and policies that geared towards the enhancement of students' attitude and self-efficacy towards English language learning.

2) School administrators may adapt the findings of this study to reinforce the decision-making of the school leadership; and to address issues on student behavior, school improvement plans, and curriculum enhancement.

3) Language teachers may look closely how students' attitude and self-efficacy affects the latter's ability to learn English language and enhancing their English language learning outcomes.

4) English language students may use the outcomes of this research in order to enhance their attitude and self-efficacy towards learning English language.

5) Student-researchers in the field of language learning and teaching are encouraged to replicate this study but to include other variables such as language learning engagement, language learning anxiety, and language attitudes and strategies in some other avenues.

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COMPLIANCE WITH ETHICAL STANDARDS

To ensure the compliance of ethical standards in research, the researcher obtained an informed consent from the respondents. Likewise, the researcher assured that anonymity of the respondents and the data gathered are kept confidential.

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LIVING FROM THE DISTANCE: A PHENOMENOLOGICAL STUDY

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ABSTRACT

Living far from the school is a clear picture of the challenges students face in their educational journey. This study investigated the lived experiences of students studying at sto Niño High School, Tanjay City Division, who reside in far areas from the school, for the school year 2023-2024. The study utilized a phenomenology design to describe and understand the situation of the participants. Focused group discussion was employed by the researcher through a trained teacher to collect the data for reflexivity purposes. Moreover, a consented audio recording was a big help for transcribing the participants' verbatim responses then were analyzed through thematic analysis. This entailed the researcher familiarizing the transcripts, generating codes, combining codes into themes, reviewing themes, defining themes, and reporting the findings. The result revealed six themes that shed light on the experiences of the participants including inconvenience, emotional distress, less socialization, low academic performance, financial constraints, and resourcefulness and resiliency. These results will be disseminated to the schools in Tanjay City division especially to hinterland schools and will be the basis for teachers' action plans and school program initiatives. Thus, the study recommends that teachers be observant of the situation of their learners and help them by any possible means that could aid their education. Furthermore, this study also suggests that schools should tap into community stakeholders for better implementation of the school's initiatives.

Keywords: *Phenomenology, lived experiences among students residing far from school, Tanjay City Division, Philippines*

INTRODUCTION

Regardless of where they live, all people should have access to education as it is a fundamental right. However, many people still live in remote places and find it difficult to obtain education. These individuals usually have unique life experiences that impact their academic careers. However, living in a rural location presents several obstacles for students. This includes limited access to resources, transportation and distance, financial hardships, and social and emotional well-being.

Limited access to resources can seriously impair a student's capacity for academic success and have an ongoing negative impact on their educational outcomes. These students are unable to access reading materials, technology-based learning, or educational facilities available if they reside in urban areas. This situation has led students to not enjoy their performance in their subjects (Gaotlhobogwe, 2021). In addition, Internet accessibility hinders learners' participation in the educational process. Nowadays, teachers employ strategies and pedagogies that have proven effective in making the teaching process more efficient and effective. The integration of research principles by sourcing information and data through varied academic sources has been included in the curriculum to maximize students' and teachers' critical and problem-solving skills. However, the situation of students living in remote areas hinders their performance in activities that require academic research. This could affect motivation, self-efficacy, learning, mood, and emotions (HeinOnline, 2024). In this high regard, teachers play an important role in providing support for these deprived learners. They can give students reading materials, workbooks, printed worksheets, and textbooks for use at home as offline learning resources. Verify that these materials offer precise directions for self- guided learning and are in line with the curriculum (Staff, 2023). In addition, aside from giving parallel activities and handouts, teachers can diversify tasks and projects regardless of the type of learners they have. By giving them opportunities and freedom to choose what approach to do their assignments, all the learners will be able to show their skills and knowledge despite internet inconvenience (Cchiaro, 2020).

Moreover, the students' experiences did not stop there. Owing to the absence of a vehicle, students find it challenging to navigate from their houses to school. Regular school commutes are difficult for students to complete because of insufficient infrastructure, including roads and transportation. To get to school, they must walk for an hour or more to demonstrate their commitment to study despite the difficulties posed by their isolated location. Learners who must go a considerable distance every day from their house to school spend less time sleeping and studying, which causes them to wake up late (Zuckerman, D. (2021). Early Morning Classes, Sleepy Students, and Risky Behaviors. - References - Scientific Research Publishing, n.d.). This can affect their emotional state whenever these learners arrive at school, they tend to be tired and exhibit less understanding and less interaction in class discussions which sometimes results in sleep mode. In this scenario, teachers naturally wake up students from sleeping and persuade them to listen and participate in the class. However, this affects the student's emotional well-being. The less sleep people get, the less social interaction they desire.

Consequently, they become more socially unappealing to others, which exacerbates the serious social isolation effects of sleep deprivation, this cycle could be a major contributing factor to the loneliness public health crisis (How Poor Sleep Can Ruin Your Social Life, 2018). Relatively, according to Peteros et al. (2022), this is true since learning is naturally affected by inner and outer stimuli. These circumstances adversely affect the student's education. Students who are living in remote areas have lower levels of social, emotional, and academic well-being (Duckworth et al., n.d.) Moreover, financial constraints hinder the learners from acquiring materials and accessing devices that can be of great contribution to their education. This scenario can be attributed to parents who have less income and who just make things enough to meet the necessities to survive daily living. In this situation, parents prioritize food and shelter, although sometimes not enough, rather than providing materials and school supplies for their learners. Thus, financial constraints affect student academic performance (KUPTM, n.d.). This phenomenon is related to the study titled, Effects of Distance to School and Poverty on Learners' Academic Performance in Four Selected Rural Primary Schools in Chibombo District of Central Province. Based on the results, it is found that learners' academic performance is negatively impacted by poverty and travel time to school. According to the report, the Ministry of Education should work with the government to build additional elementary schools in rural areas and support school food programs for vulnerable children living in these areas (Chitondo, 2022).

There are numerous challenges that students face when residing in far-flung and remote areas from the school where they enroll. A relevant study titled, The Effects of school distance on Students' Academic Performance: A Case of Community Secondary Schools in Makambako Town Council presented those students who commuted farther to school arrived at their destinations later in the day and with empty stomachs. The location of the school has contributed to mass failure for most students, as long walks have resulted in dropout rates and a high percentage of pregnant girls, who are unable to complete their education. Community secondary schools in Makambako Town Council will continue to perform poorly academically if efforts are not made to improve the quality of education provided to these schools (Mhiliwa, 2015).

As mentioned above, distance and transportation, scantiness of educational resources, and financial problems are common gaps students face. These difficulties may significantly affect their general academic performance and personal growth. Students who attend school in remote locations frequently have restricted access to experiences, resources, and support networks easily accessible to their peers in populous or urban areas. This might result from feelings of loneliness, isolation, and a lack of ties to peers and communities. Consequently, these issues may create psychological distress in learners. According to a recent University of Houston study, although people may connect remote locations with tranquil scenery and quiet lifestyles, rural residents face higher rates of anxiety and depression than their urban counterparts (*Health Research Institute Rural Residents Are More Depressed and Anxious Than Those in Urban Areas, UH Study Finds*, 2023).

The experiences of students who live far from their school pose a threat to their future if not understood and taken considerably. In this regard, to understand this phenomenon better, the researcher proposes this investigation of the situation of some students at Sto Niño High School who live in the far-flung areas in Barangay Sto Niño, a hinterland place in Tanjay City, Negros Oriental in the academic year 2023-2024. Thus, the result of the study will be the basis for the school's improvement plan highlighting the support of these learners.

Research Questions

This study investigates the lived experiences of students at Sto Niño High School, Tanjay City in the academic year 2023-2024. Thus, it seeks to answer the following questions:

1. What are the lived experiences of students who are studying at Sto Niño High School?
2. What is the meaning of their experiences?

METHODOLOGY

This study utilized a phenomenological approach to investigate the lived experiences of the students living in far-flung areas in Barangay Sto. Niño where the school is in the academic year 2023-2024. The researcher employed purposive sampling since the participants of this study were qualified based on the criteria for pre-selection of the participants. These include the distance and hours spent going to school and vice versa. The distance of their residences is 4-6 kilometers and it takes them to walk for an hour or more since there are no vehicles available in their respective places. Furthermore, the researcher had twelve (12) prospected participants. Six (6) of these participants were initially interviewed for pilot testing. With consented audio recording and transcription, the data was saturated which led the researcher to commence the actual data gathering of the six (6) remaining students through Focused Group Discussion (FGD).

To analyze the data, the researcher utilized Braun and Clarke's thematic analysis. Moreover, to confirm that the researcher's interpretations accurately reflected the participants' intended meaning, member checking was also conducted. Furthermore, the degree of confirmability enhances the study's credibility. This criterion, confirmability, measures how much the research study's conclusions are based on the participants' accounts and assertions rather than likely researcher biases (Moran, 2021). In this high regard, the researcher used reflexivity to preserve the study's objectivity. Here, the researcher chose a trained teacher to lead the concentrated group discussion with the participants.

RESULTS

Table 1. Thematic Map

Codes	Themes
Far distance No vehicle to be used going to school and vice versa No cellphone, weak signal, and no internet access Walking under the rain and heat of the sun	Inconvenience
Walking alone most of the time going home and vice versa Afraid of what will happen along the way Feels sad whenever come late to class Feels frustrated whenever cannot research for assignments	Emotional distress
Isolated sometimes Limited interaction with classmates, schoolmates, and teachers Cannot join clubs and organizations Cannot attend to group tasks	Less socialization
Dried fish and rice for lunch only No money was given from the parents Parents' work is farming Less income to sustain daily needs	Financial constraint
Less participation in the classroom Low grades in most of the subject areas	Low academic performance
Root crops as their snack Banana leaves as an alternative during heavy rains and the hotness of the day Using plastic as an alternative bag for their materials during heavy rains Walking with their bare feet just to go to school	Resourcefulness and resiliency

DISCUSSION

This section encapsulates the overall result of the research. Through thematic analysis, codes and themes were generated to highlight the lived experiences of the students who live in the remote areas of Barangay Sto. Niño, Tanjay City. This thematic analysis is employed to delve deep into the personal experiences of students in their education in remote areas of the said Barangay. By using thematic analysis, the researcher gained a comprehensive understanding of the unique experiences and challenges of these students as they navigate from their respective homes to school.

Inconvenience

Living in far distant areas can pose challenges for students especially when it comes to receiving a quality education. These challenges range from difficulties commuting to school to accessing learning materials. Students in regions often encounter inconveniences that their urban or suburban counterparts may not face. Those residing in areas experience obstacles, such as limited educational resources, lack of transportation, and difficulties dealing with academics. The theme of inconvenience is supported by the responses of participants.

Participant 1 said,

> *"Layu kaayu amu sir. Maglisud jud ko sir kai wala may mi magamit na sakyanan or motor ba para mahatod m sir so maglakaw nalang ko sir sag maglisud ko sa dalan labi najud ug danlog. Dayun paita kaayu sir kai wala mi diri wifi nya wala kaayu signal. So, dili mi maka research".*

> *"Our house is far from the school sir. I found it difficult since we don't have vehicles to be used going to school and vice versa. For this reason, I just walk every day no matter how hard sometimes deal with slippery roads and pathways. Moreover, it is difficult on my end since we don't have internet access in our place which makes it hard for us to research".*

Moreover, participant 3 answered,

> *"Ako pud sir. Hapit duha ka oras ko maglakaw kay wala jud mi magamit na motor para adto eskwelahan. Tinuod pud na sir na maglisud mi sa among mga assignments kai dili mi ka research kai wala mi internet. Usahay mangayu nalang mi sa among teachers ug handouts para basahon kai wala pud mi cellphone para maka research."*

> *"Me too sir. I walk every day for almost two hours going to school and vice versa since we don't have a vehicle. It is indeed difficult for us to do our assignments since we don't have an internet connection in our place. Sometimes, due to the absence of devices like cellphones, we just ask our teachers to give us handouts for us to review and do our tasks."*

Participants 1 and 3 strongly emphasized how hard it is for them to deal with going to school and vice versa. The long hours of walk and the absence of vehicles as means of transportation, make their lives as students more challenging. Moreover, the inaccessibility of resources and devices also adversely affects their education. They cannot do some tasks that require further research or internet connectivity since they do not have cell phones or Wi-Fi in their area.

Emotional Distress

One of the challenges for students in remote areas is the emotional distress that they feel as a result of living from a distance. Having no vehicle leads them no choice but to walk and deal with possible things along the way. Also, students who live in far-flung places may face particular difficulties that result in greater rates of emotional distress. These people do not have the same access to opportunities and resources as their counterparts in cities. Among other mental health problems, this isolation can cause feelings of loneliness, worry, and sadness. Participants' responses supported this statement.

Participant 4 said,

> *"Mag inusara rako ug lakaw sir padulong sa eskwelahan ug pagpauli pud sa balay. Mao ng kuyawan ko sir. Dili gyud lalim. Ma late pud ko ug makaguol kai usahay maulahi q ug naai test or quiz among teacher sir. Dayun, wala pud koi selpon sir hinungdan nga dili ko makagama ug assignments mao ng hatagan ko sa akong teachers ug mga balasahun para naa ko basehan sa akong answers."*

> *"I just walk alone sir going to school and vice versa and that makes me feel nervous and worried. It's not easy on my part. I even come to school late, which frustrates me because there are quizzes and tests that I miss sometimes. In addition, I do not have a cellphone, which hinders me from completing assignments. My teacher just gives me handouts for me to read and make it the basis for my answers."*

Moreover, Participant 6 added,

> *"Ako pud sir. Ma late jud ko kai mupahuway pa man pud ko ang hapit baya 2 ka oras akong lakaw sir paingun sa school ug pagpauli. Makuyawan gani ko maglakaw usahay sir kai ako ragud usa. Usahay, muhapit ko sa akong kaila na estudyanti harun magkuyog mi sir peru mga 45 minuto pa una ko maabot sa ilaha. Usahay gani kai maulahi nako sa test namu sir and sayangan ko kai magtuon baya pud ko sa balay sir."*

> *"Me too sir. I am late for school because I still need to rest. I had to walk for almost two hours, going to school and going home. In this regard, I felt worried and nervous, knowing that I was alone. In addition, I stopped by at my schoolmate's house, so we could go together at school sometimes. However, it took 45 minutes*

before I arrived at their house. I also felt sad when I was late for our tests and quizzes especially since I studied at home."

Individuals' futures are greatly shaped by their education, which equips them with the knowledge and abilities needed to thrive in life. However, as they negotiate the difficulties and demands that come with the quest for academic greatness, students frequently experience worries and sad emotions during their educational journey. In this statement, participants 4 and 6 expressed their emotions highlighting worries and sadness caused by living far from their school.

Less Socialization

Students' sociability is significantly impacted by living distant from campus. The ability to socialize has become crucial to the student's experience in today's connected world. Through social interactions on campus, students can create lifelong friendships and professional ties. However, socialization possibilities are limited for students who reside distant from campus. The physical separation between learners and their peers is one of the primary causes of this lack of socializing. It was difficult for students to attend social gatherings, club meetings, and other school events if they resided far away. This separation can make it difficult for them to get to know one another and can lead to feelings of loneliness and isolation. Thus, this statement is supported by the responses of participants 2 and 5.

Participant 2 said,

"Mao lage pud sir kai tungod nga layu amu, di nako makaapil ug mga club and organizations sa school kai ug naai mga panagtapok kai di japon ko kaapil kai layu man amua. Need ko musayu. Masuya ko usahay sir nga mag inusara sa kilid. Dayun ug naai mga activities sa school kai di japon ko maka enjoy kaayu kai need ko mouli dayun sir magabin.an napud ko."

"I cannot join school clubs and organizations Sir. I cannot join if there are meetings since our house is far away. I needed to go home early so I would not come home late. Then, if there are activities in school, I cannot enjoy as much as I love to that is why I feel jealous, alone, and isolated. It is really hard for me to interact and socialize with my classmates and teachers with that matter."

In addition, Participant 5 answered,

"Tinuod na sir. Makasuya baya kai ang uban nga estudyanti kai makaparticipate sila ug naai mga activities while ako di jud. Ganahan unta ko muapil peru di ko ka buhat sa uban nga responsibilidad kai pag naai meeting, di ko ka apil kai kailangan ko musayu uli. Panalgasa rapud ko makaapil ug mga activities sa school sir nya ug maka higayun pud ko, di pud ko maka pagusto ug enjoy kauban sa akong mga classmates, ug mga maestra ug maestro. Imbes nga maka palami ug istorya dili nalang kai maghuna huna ko na magabin.an ko mauli."

"That is true sir. I felt jealous because other students could participate in school activities while I could not. I wanted to join but I could not because of the responsibilities I may not be able to fulfill. If there are meetings about it, I could not just attend since I need to go home early. Although so often that I could join activities in school, I could not enjoy interacting and enjoying the moment with my classmates and teachers because I had to go home early."

Being situated in a far-flung area tremendously affects the sociability of learners. Thus, this is emphasized by participants 2 and 5 when they said that living far from the school limited their opportunities for socialization and interaction.

Financial Constraint

Parents play a significant role in the learners' education. To guarantee that they have access to a high-quality education, parents' financial support is essential. However, if parents do not have an adequate source of income, the learners' education is affected. In this theme, it is evident that students experienced difficulties and challenges in their journey to education in terms of their necessities and access to other resources that are pertinent to their studies. Having no food for snacks and water makes them endure what their parents can afford. This concept is explained by the experiences of the participants.

Participant 1 said,

"Di man ko tagaan ug balon sa akong mga ginikanan sir kai wala man silay kwarta. Mang uuma ra pareho akong ginikanan nya gamay ra ug sweldo. Igu rajud makakaon ika tulo sa usa ka adlaw. Mag sud.an ra gani mi ug bulad dayun kan.on. kasagaran kan.on rajd ug patis amu sud.an ug mao rapd ako balunon sa eskwelahan pag pa niudto."

"My parents do not give me money because they do not have enough. My parents are both farmers and their income is only enough for a three times a day meal. Dried fish and rice are what we ate for our meals. Most of the time, I just eat rice and soy sauce for my lunch."

In addition, Participant 5 said,

"Ang trabaho sa akong mga ginikanan sir kai mang uuma raman mao ng gamay ra sila ug sweldo. Dili pud maka hatag nako ug kwarta silang mama kai igu rajud ang ilaha sweldo sa among pang adlaw adlaw. Usahay kulanganon gani sir. Usahay mutabang ko ila ug pang uma haron naai mapuno gamay sa amu panginahanglan sir."

"Both of my parents are farmers, and their income is just enough for our daily basis. Sometimes, not enough for all our needs. Moreover, they could not

give me money which made me help them farm to earn and contribute to the family's daily needs."

Money is indeed a catalyst to make things work. In education, it plays a crucial role in financing all the needs of the students yet a constraint of it tremendously resulted in challenges encountered and endured among students who experienced the phenomenon. Participants 1 and 5 faced these challenges without complaining instead, understood the situation and even made an effort to help the family's situation.

Low academic performance

The goal of education is for learners to discover their learning styles and to receive passing marks for their hard work and sacrifices. The sense of completion they get from finishing a course or set of subjects has a favorable effect on their well-being and positive outlook on life. However, because of underlying issues like living far from the school, it can be difficult for them to handle the difficulties that attending school may present. In this case, the participants in this study revealed that they walked long hours to reach the school since there was no vehicle available in their situation. As a result, they felt tired and did not have the energy to participate in class discussions. Moreover, they got low scores on their quizzes and exams. This situation can be noticed in the participants' words.

Participant 3 said,

"Tungod sa kakapoy sa akong paglakaw sir kai mawad.an nako ug gana nga maminaw pag. abot sa eskwelahan. Katulugon nako sir. Mao ng ug mag test si maam kai gagmay ko ug kuha. Usahay gani kai Kasab,an ko sa akong maestra kai nganu daw sige ko katulugon sa klase mao tong nakasabot rapud sila then padad.an ko nila ug balasahon."

"I felt exhausted when arrived at school which made me lose my interest in listening and participating in class activities. I just felt sleepy. Whenever our teachers conducted a test, I always got low scores. Our teacher asked me why I was always sleepy in class, so I told them of my situation and then they understood and helped me. They gave me some handouts to read at home".

Participant 6 added,

"Ako pud sir. Nasultian pud ko sa akong mga teachers nganu sige ko katulugon sa klase ug ni ingun pud ko na layu amu. Na alarma daw sila kai gagmay kaayu ko ug kuha sa mga test namu nya dili pud daw ko tig participate kaayu sir. Sukad eto, tagaan pud ko ug mga handouts sa among teachers para naa daw ko katun an".

“Me too Sir. My teachers also asked me why I was always sleepy in class. They were alarmed by my low scores obtained from the tests and added that I was not participating in class activities. For that, I told them my situation and they understood it. They even gave me handouts so that there is something I can read at home”.

In general, a student's academic performance can be greatly impacted by the distance between their home and school. Students who live far away from home have several obstacles to overcome that can hinder their academic performance, such as trouble getting about, fewer extracurricular activities available to them, and higher stress levels. Participants 3 and 6 highlighted their experiences about how tired and unmotivated they were when they arrived at school from walking a long distance. Due to this, their academic performance is adversely affected. On the other hand, teachers’ care and concern are evident when it was expressed by the participants that their teachers asked them about the possible causes of their behavior in the classroom. Thus, their teachers give them handouts for something to be read at home.

Resourcefulness and resiliency

Learning can be hard sometimes. Due to many reasons that may contribute to the student’s success or failure in their education, some may endure, and some may just stop. In this case, the situation of the participants in this study is a vivid manifestation that living far from the school naturally challenged them to decide for themselves whether to continue or stop their education. Although, this has made them a lot of sacrifices, but their conviction to pursue their education can be described as commendable. In this theme, the participants shared their practices reflecting on being resourceful and resilient despite the hardships they needed to face in their education.
Participant 2 said,

“ Walay mahatag nga kwarta akong ginikanan para snack sir mao ng mangalot nalang ko ug kamote then manguha pud ko ug ginangmay nga saging dayun aqng lung.agon dayun mao akong balunon sa skwelahan sir. Dayun, ug mag ulan sir kai manguha lang ko ug dahun sa saging maoy akong himuon na payong. Then, syempre ug mag yutik jud ang dalan, mag tiniil rako dayun manghinaw rako pag abot sa among school. Mao gani mg problema ko usahay ug mag.ulan sir kay akong bag guba na. wala nai tarong nga zipper. Mao ng mangayu nalang ko ug plastic sa mga tindahan sa proper sir didto nako isulod ang akong notebook ug ktong gipanghatag nila maam ug sir nga mga handouts. Sag maglisud ko, peru gi agwanta ra nako sir kai ganahn ko makapadayun ug makatiwas ug ewkwela”.

“My parents do not give me money for snacks sir that is why I just harvest some sweet potatoes in our backyard and get some bananas and cook these all together for my snacks. In terms of rainy days, I also get banana leaves as a cover

for my head since we cannot afford to buy an umbrella. Also, I have a problem with my bag since it is almost broken, and the zipper is not working. In this regard, I just asked for a plastic bag from the stores and put my things including my notebooks and the handouts that were given by my teachers. I know it's really hard for me, but I have to endure and find ways to continue and finish my studies".

Moreover, participant 4 answered,

"Ako pud sir. Manguha rapud ko ug dahon sa saging akong ipandong bastag init or ulan ba. Magbalon rapud ko ug plastic sir kai aq rapud isulod ang akong mga gamit. Mag tiniil rapud ko sir nya magbalon rako ug tsinelas dayun adto rako manghinaw sa eskwelahan. Wala koy sapatos kai dili maka palit akong mga ginikanan. Dili gani sila makahatag nako ug kwarta para balon. Mao ng harun dili ko gutumon sa eskwelahan, mangita ko ug mag salag.on nga ako malung.ag ug akong mabalon. Ou, lisud among kahimtang sir, peru akong gikaya kai ganahn ko makatiwas ug eskwela sir harun makatabang ko sa akong pamilya puhon".

"Same here sir. I just get banana leaves to cover myself when it's too hot and when raining. I just secured a plastic bag and put my things in it whenever rain occurs. I just walk with my barefoot, and I just carry my slippers and just clean up when I arrive at school. I don't have shoes too. My parents cannot afford to buy me one. They can't even give me money for my allowance which is why I just look for any root crops that I can cook so there is something I can eat for my snack at school. Yes, my situation indeed seems to be challenging but I just have to deal with it. I have to endure everything and find ways to overcome whatever hurdles hinder my way. I have to be strong so I can finish my studies and be able to help my family in the future".

Challenges are said to be the counterpart of the ladder of success. Enduring and staying focused to continue their studies are what participants 2 and 4 emphasized. Despite the difficulties they encountered, they demonstrated resourcefulness and resiliency that made them stronger in life, especially in their education journey. With these values, the participants even made clear that whatever hurdles their way, they will still strive for themselves and their family's future.

Conclusions

The study concluded that the lived experiences of the students who live far from their school highlighted the challenges and effects on their academic performance and emotional and social well-being. Moreover, resourcefulness and resiliency were found to be a strong will for these students to keep focused on their goals to continue and finish their studies.

Living far from the school posed several challenges to the participants. One of these is the inconvenience that they experience in their daily journey. This is evident by the absence of vehicles which led them to come late to school, the absence of gadgets like cellphones, weak signals, and no internet access which resulted in low academic performance. Having no cellphones or any means of online surfing prevents these learners from doing extra research for their assignments and projects and makes them feel frustrated. In this regard, teachers showed understanding of the student's situation and provided them with materials they could read at home. This study also revealed that living far from the school hinders the participants from exercising their social skills. They prefer not to join school clubs and organizations because they worry much if they cannot fulfill their responsibilities since it is hard in their situation. Furthermore, parents' financial constraints also contributed to students' challenges. Learners were deprived of basic needs since their parents' jobs were farming and the family's income was only enough for a daily basis. This explains why the participants understood and kept enduring what their situation might bring to their everyday lives including their education.

Living far from the school presents a regular problem for a lot of students worldwide. In this study, several problems were faced by the participants including transportation, motivation toward academic stance, limited emotional and social expression, and connection. However, participants showed incredible will in enduring their daily experiences. These students demonstrated resourcefulness and resiliency to parallel the challenges in their situation. They continue to go to school no matter how far it would take them only by walking with their bare feet and in times of rainy and sunny days, they use banana leaves as an alternative to cover their bodies. Also, they ask for plastic bags from stores they could pass by to save their materials from getting wet since their bag is no longer in good condition. Their determination does not stop there. Participants learned to find ways to look for something that will serve as their snack in school since their parents do not give them an allowance. Bringing cooked root crops such as sweet potato and banana from their backyard is what saved them as their snacks.

Learners who reside far from school have certain difficulties that can make it challenging for them to travel to class every day. But when they figure out how to get beyond these challenges and carry on with their schooling, their resourcefulness and fortitude come through. These students show a genuine commitment to their education and a strong belief in the ability of learning to improve their lives, whether it be through using transportation, coming up with alternative ways, or just making the effort to get to school every day.

Recommendations

Based on the results of the study, the researcher reminds teachers to be more observant of their students' situation so they can provide any means of support to survive their education. Moreover, it is important to practice community linkages to better implement any program that will benefit the learners and the school. Research-wise, future researchers may include urban schools since the present study focused on only one school in the hinterland to elicit more experiences and differences in their situations.

Also, the pragmatic method can be applied too. Combining both qualitative and quantitative can have a tremendous impact on studies like this.

Compliance with Ethical Standards

I, Mr. Joseph Torres, author of this study hereby declare that the implementation of the study took a careful and ethical approach. Before the actual implementation of the study, the researcher sent a permission letter to the school's division office for approval. After being approved, the researcher invited the possible participants for an orientation. The agenda included the nature and the purpose of the study, informed consent, the anonymity of the participants, the confidentiality of the data, and the freedom to withdraw. All of these were explained well and understood by the would-be participants. Consequently, the participants gave their support and signed the informed consent. Furthermore, the study is not plagiarized, and the sources cited in this paper are properly acknowledged. Also, to avoid bias, the researcher trained a teacher to collect the data through focused group discussion.

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MOTHER TONGUE INTERFERENCE: ITS EFFECT TO THE ENGLISH PRONUNCIATION SKILLS OF BA ELS STUDENTS IN A UNIVERSITY IN SULU, PHILIPPINES

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ABSTRACT

This study investigated the effect of mother tongue interference on the English pronunciation skills of the BA ELS students of Mindanao State University-Sulu. Specifically, this study dealt with the following objectives: (1) to determine the profile of the respondents in terms of gender, age and year level; (2) to identify the level of English pronunciation skills of selected BA ELS students of MSU-Sulu; (3) to identify the effect of mother tongue interference to the English pronunciation skills of the said students; and
(4) to ascertain if there is a significant difference on the level of students' English pronunciation skills when the data are grouped according to the profile. Descriptive research survey was used in this study. This study focused only on the BA ELS students who were officially enrolled during school year 2022-2023. Forty respondents were selected using stratified random sampling. The researchers used self-developed questionnaire as the instrument of this study. Frequency, percentage, weighted arithmetic mean, t-test for independent samples and one-way analysis of variance were the statistical tools used in this study to answer the stated research questions. The findings revealed that the level of English pronunciation skills of the students is very satisfactory. In addition, the respondents agreed that mother tongue interference has negative effects on their English pronunciation skills. Furthermore, it revealed that there is no significant difference in level of English pronunciation skills of the students when the data are

grouped according to the profile. In view of the findings, the researchers suggested that teachers may monitor the pronunciation skills of the students especially during class hour, and may look for teaching methods and instructional strategies that can motivate the students to frequently speak in English. Finally, the school administration may create measures for improvement of the speaking ability of the BA ELS students.

Keywords: *Mother tongue interference, English pronunciation skills, Sulu, Philippines*

INTRODUCTION

The concept of Mother tongue is a traditional term for a person's native language meaning, a language learned from birth. Mother tongue most often was called a first language, dominant language, home language, and native tongue and so on. Contemporary linguists and educators commonly use the term "L1" to refer to a first or native language (the mother tongue), and the term L2 to refer to a second language or a foreign language that is being studied (Nordquist, 2019). One of the main problems of mother tongue interference is that it can impede communication between people. For example, if someone is speaking their native language and another person is speaking a different language, it can be difficult to understand each other. Another problem is that it can limit a person's ability to learn a new language. If someone is constantly speaking their native language, they may not have the opportunity to practice and learn a new language. The term interference, on the other hand, according to Weinreich (2011) as cited by Nishanthi, R. (2020), is defined as a situation when the person (bilingual) uses norm or rule from their first languages involved to their second languages as a result of the language contact on both languages. Interference is the deviation of language norm in usage as the effect of multilingual toward some other languages.

The problem on mother tongue interference was demonstrated by many studies. Denizer (2017) noted that in English language, the most challenging part is grammar, while the most difficult and influenced skills is speaking. He also claimed that participants had difficulty speaking without any preparation. Denizer (2017) finally added that the results of his study indicated that mother tongue interferes in almost all aspects. In addition, the data obtained from the study of Fitriani and Julkarnain (2019) showed that the learning process of the target language was affected by the first language.

Based on the researchers' initial review of literature, it was found out that there is a limited study on this topic especially in most academic institutions in the Southern Philippines. In Mindanao State University-Sulu, for example, students who used English as a medium of communication tend to mix it with their mother tongue. This is true to most college students regardless of gender, age and year level.

The researchers also believed that people should take into consideration the possible interference of mother tongue in their pronunciation skills. So, the main goal of this study was to determine the effect of mother tongue interference on the students' pronunciation skills in English. It also aimed to determine the effective ways for

overcoming mother tongue interference. Finally, this study will be beneficial to the students, teachers, curriculum planners and other stakeholders of an academic institution.

Research Questions

This study aimed to determine the effect of mother tongue interference to the English pronunciation skills of selected BA ELS students in Mindanao State University- Sulu.

Specifically, this study sought to answer the following research inquiries:

1. What is the profile of the respondents in terms of gender, age and year level?
2. What is the level of English pronunciation skills of selected BA ELS students of MSU-Sulu?
3. What is the effect of mother tongue interference to the English pronunciation skills of the said students?
4. Is there a significant difference in the level of students' English pronunciation skills when the data are grouped according to profile?

METHODOLOGY

In this section, the research methodology is presented. It contains the research design, locale of the study, research sampling, research respondents, research instrument, validation of research instrument, data gathering procedure, and statistical treatment of data.

Research Design

This research study employed a quantitative method to obtain information about the effect of mother tongue interference to the English pronunciation skills of selected BA ELS students in Mindanao State University-Sulu. To be specific, the researchers used descriptive survey design. This study employed a descriptive method of research, with primary data gathered through individual unstructured interviews (Ancho & Park, 2023).

Locale of the Study

This research study was conducted at Mindanao State University-Sulu particularly at the College of Arts and Sciences. The said college is adjacent to the Academic Building. It is beside the Student Center and behind the Integrated Science Laboratory Building.

Sampling Technique

The researchers used stratified random sampling for the selection of the respondents. Stratified random sampling is a sampling which involve chosen some group of items from population based on classification and random selection. It involves separating the target population element in to homogenous, mutually exclusive segment, from each segment simple random sampling is chosen. The selected sample from different strata is combined to have a single sample. Stratified sampling is the technique of probability sampling in which the characteristics of a precise variable are interpreted in the universe relative to this variable (Iliyasu & Etikan, 2021).

Respondents of the Study

Forty out of 264 BA ELS students who were officially enrolled during the school year 2022-2023 served as respondents of this study. They were asked to answer the survey questionnaire prepared by the researchers.

Research Instrument

The instrument used by researchers in this study for acquiring primary data was a survey questionnaire which contained three parts. The first part is about the personal data of the respondents which contains their name, gender, age, and year level. The second part, on the other hand, contains items about the effects of mother tongue interference to the English pronunciation skills of the students. The researchers used the following 4- point rating scale as response choices in the second part of the questionnaire: strongly agree, agree, disagree and strongly disagree. Lastly, the third part contains ten words that were used to determine the level of pronunciation skills of the students.

Validation of Research Instrument

The researchers first submitted the survey questionnaire to their thesis adviser for possible corrections and suggestions. After having been checked by the adviser, the researchers proceeded to at least three experts in research specifically from the faculty of the College of Arts and Sciences for the validation of the research instrument.

Data Gathering Procedure

The first thing that the researchers did was to write a letter to Prof. Ajid M. Sari, the dean of the College of Arts and Sciences, to allow them to conduct their research study on the said college. Afterwards, the researchers sent another letter to the chairman of the Department of Languages, for the gathering of data and for the launching of the questionnaire on April 3, 2023.

Statistical Treatment of Data

For the statistical treatment of data, the researchers used frequency and percentage to identify the profile of the respondents. In addition, the researchers used mean to determine the level of English pronunciation skills of selected BA ELS students and the effect of mother tongue interference on the students' said skills. The researchers also used t-test for independent samples and one-way analysis of variance to ascertain if there is a significant difference in the level of the students' English pronunciation skills according to their profile.

RESULTS AND DISCUSSION

This section presents the analysis and interpretation of data gathered from 40 respondents. The tables are presented according to the order of the research questions in the statement of the problem.

Table 1.1 Demographic Profile of the Respondents in terms of Gender

Gender	Frequency	Percent
Male	15	37.5%
Female	25	62.5%
Total	**40**	**100%**

Table 1.1. shows the demographic profile of the respondents in terms of gender. As shown in the table, 15 or 37.5% of the respondents are males, while there are 25 or 62.5% of the respondents are females. This means that majority of the respondents of this study are females.

Table 1.2 Demographic Profile of the Respondents in terms of Age

Age	Frequency	Percent
19-23 years old	30	75.0%
24 years old and above	10	25.0%
Total	**40**	**100%**

Table 1.2 shows the demographic profile of the respondents in terms of age. As shown in the table, 30 or 75.0% of the respondents are 19-23 years old; while only 10 or 25.0% of the respondents are 24 years old and above. This implies that majority of the respondents of this study belong to the age bracket group of 19-23 years old.

Table 1.3 Demographic Profile of the Respondents in terms of Year Level

Year Level	Frequency	Percent
1st Year	10	25.0%
2nd Year	10	25.0%
3rd Year	10	25.0%
4th Year	10	25.0%
Total	**40**	**100%**

Table 1.3 shows the demographic profile of the respondents in terms of year level. As shown in the table, 10 or 25.0% of the respondents are in 1st year level, 10 or 25.0% of the respondents are in 2nd year level, 10 or 25.0% of the respondents are in 3rd year level and 10 or 25.0% of the respondents are in 4th year level. This implies that the distribution of the respondents of this study is equal across all year level.

Table 2 Level of English Pronunciation Skills of the Students

	Mean	SD	Description
Level of Pronunciation Skills	9.88	2.70	Very Satisfactory

Legend: 1.00-3.80 = Not Satisfactory; 3.81-6.61= Fairly Satisfactory; 6.62-9.42 = Satisfactory; 9.43-12.23 = Very Satisfactory; 12.24-15.00 = Outstanding

Table 2 shows the level of English pronunciation skills of the students. As shown in the table, the mean level of English pronunciation skills of the students is 9.88 which is very satisfactory.

Table 3 Effects of Mother Tongue Interference on English Pronunciation Skills

Statements	Mean	Description
1. It's challenging for me to speak or talk because I always mispronounce the words that I set to use in a conversation.	2.90	Agree
2. I tend to mix the words I uttered with a Tausug word.	2.85	Agree
3. I find it hard to pronounce in English because I'm used to speak in mother tongue.	2.72	Agree
4. I usually commit errors in my pronunciation.	2.70	Agree
5. I cannot pronounce the proper stress of the syllable.	2.65	Agree
6. I find it hard to speak in straight English.	2.65	Agree
7. I find English language difficult to pronounce.	2.63	Agree
8. I tend to have a poor diction.	2.45	Disagree
9. I cannot pronounce the letters "b, f, l, p, r, s, u, v, and z" in the words properly.	2.30	Disagree
10. I cannot pronounce the words correctly.	2.05	Disagree
Grand Mean	**2.59**	**Agree**

Table 3 shows the perceived effects of mother tongue interference on the English pronunciation skills of the students. As shown in the table, the students *agreed* on the

following indicators*: It's challenging for me to speak or talk because I always mispronounce the words that I set to use in a conversation, I tend to mix the words I uttered with a Tausug word, I find it hard to pronounce in English because I'm used to speak in mother tongue, I usually commit errors in my pronunciation, I cannot pronounce the proper stress of the syllables, I find it hard to speak in straight English, and I find English language difficult to pronounce.*

In contrary, the respondents *disagreed* that*. I tend to have a poor diction, I cannot pronounce the letters "b, f, l, p, r, s, u, v, and z" in the words properly and I cannot pronounce the words correctly.*

The grand mean of 2.59 with a verbal description of *agree* implies that the respondents agreed that mother tongue interference has negative effects on their English pronunciation skills.

Table 4.1 Results of Significant Difference in the Level of Students' English Pronunciation Skills based on Gender

Gender	N	Mean	SD	t	df	p-value
Male	15	10.47	2.32	1.076	38	.289
Female	25	9.52	2.89			

p-value of 0.05 and below are significant and above .05 are not significant

Table 4.1 shows the significant difference on the level of students' English pronunciation skills based on gender. The findings showed that there is no significant difference in the mean scores between male (*M = 10.47, SD = 2.33*) and female (*M = 9.52, SD = 2.89*); *t(1.076), p* = .289.

Table 4.2 Results of Significant Difference on the Level of Students' English Pronunciation Skills based on Age

Age	N	Mean	SD	t	df	p-value
19-23 years old	30	10.07	2.741	.774	38	.444
24 years old and above	10	9.30	2.627			

p-value of 0.05 and below are significant and above .05 are not significant

Table 4.4.2 shows the significant difference on the level of students' English pronunciation skills based on age. The findings showed that there is no significant difference in the mean scores between 19-23 years old (*M = 10.7, SD = 2.74*) and 24 years old and above (*M = 9.30, SD = 2.63*); *t(.774), p* = .444.

Table 4.3 Results of Significant Difference on the Level of Students' English Pronunciation Skills based on Year Level

Year Level	N	Mean	SD	F	df	p-value
1st Year	10	9.70	3.16	.662	3 & 36	.581
2nd Year	10	10.80	2.62			
3rd Year	10	9.10	2.38			
4th Year	10	9.90	2.73			

p-value of 0.05 and below are significant and above .05 are not significant

Table 4.3 shows the ANOVA on the perceived effects on the level of students' English pronunciation skills according to year level. As shown in the table, the p-value of
.581 is greater than the alpha level of .05. This means that the null hypothesis is accepted. In other words, there is no significant difference in the perceived effects on the level of students' English pronunciation skills when the data are classified according to year level.

Conclusions

To study the complexity of language is a difficult task. Indeed, the English pronunciation skills of the students and how mother tongue can interfere with these skills can be evaluated both positively and negatively. The main goal of the current study was to explore the effect of English pronunciation skills among selected BA ELS students in Mindanao State University-Sulu.

In the light of the findings, the study concluded that the level of English pronunciation skills of the BA ELS students is very satisfactory. This means that students were able to pronounce the words appropriately despite not being a native speaker of English. It also concluded that mother tongue interference has negative effects on their English pronunciation skills. This means that mother tongue tends to affect the students' utterances of English words. Moreover, it is also concluded that there is no significant difference on the level of students' English pronunciation skills based on gender, age and year level. This implies that their English pronunciation skills is not dependent on their profile.

Recommendations

Based on the findings of this research, the following are recommended:

A. Research Agenda

1. Provide a copy of this research study to other schools for their reference.
2. There is a need to conduct a follow-up study to verify the result of this research work.
3. Teachers may monitor the pronunciation skills of the students especially during class hour.

4. Teachers may look for teaching methods and instructional strategies that can motivate the students to frequently speak in English.
5. There may be a similar study to be conducted on a wider scope and setting.

B. Research Policies

1. The school administration may create a policy to improve the speaking ability of the students.
2. The school administration may coordinate and partner with line agencies who are experts in the training of teachers.
3. The school administration may establish an auditorium to be used for public speaking activities.
4. The school administration may create measures for improvement of the speaking ability of the BA ELS students.
5. The school administration may create a reward system for the faculty members especially those who are language teachers.

C. Research Problems

1. Mother Tongue Interference: Its Association with the Communication Skills of the Students
2. Level of Pronunciation Skills of the Students and their Academic Performance
3. Exploring the Pronunciation Skills of the Public-School Students in Sulu
4. Effectiveness of Using Differentiated Strategies in Improving Students' Pronunciation Skills
5. Strategies to Overcome Mother Tongue Interference

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Compliance with Ethical Standards

The researchers hereby declare that an informed consent was obtained from the respondents of the study. In addition, the researchers assure that the information gathered from respondents are kept confidential. Plagiarism was strictly observed

throughout the research process, and that there was no bias in the interpretation of the findings and that the results were used purely for research purposes.

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OVERCOMING CHALLENGES IN INCLUSIVE EDUCATION: SUCCESS STORIES OF RECEIVING TEACHERS

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ABSTRACT

Challenges in inclusive education are still a pressing issue that many schools deal with. Teachers are doing the best they can to provide the education their students with special needs require despite their tough situations. Hence, this study mainly aims to explore the experiences of receiving teachers in overcoming challenges encountered as they implement inclusive education despite the lack of formal training. This study employed a qualitative research design; particularly, a narrative approach and thematic analysis were utilized in analyzing the data. The findings of the study revealed that the teachers were able to overcome challenges in implementing inclusive education by consulting experienced teachers, seeking support from co-teachers, reinforcing through the Internet, giving extra care and attention to Learners with Special Educational Needs (LSENs), gathering support from parents, and utilizing personal resources. Despite having a lack of formal teacher training in inclusive education, receiving regular teachers were able to surpass the varied challenges they encountered successfully but still strongly recommend the provision of formal and effective teacher training to become well-equipped and competent in handling a diverse group of learners in a regular classroom setting.

Keywords: *inclusive education, overcoming challenges in inclusive education, success stories in inclusive education, Philippines*

INTRODUCTION

For years, inclusion has been one of the major turning points of educational reforms in the special education system around the globe. Inclusive education is when all learners, regardless of any disabilities they may have, are placed in age-appropriate general education classes to receive high-quality instruction, interventions, and support (Alquraini & Gut, 2012). Regular education teachers, the ones given the most crucial responsibility of putting inclusive practices into action, however, still continue to indicate that they feel inadequately equipped to take the responsibility of educating diverse learners in an inclusive setting. It is evident in the study of Muega and Echavia (2011) that a number of participants, most regular education teachers, have expressed concern over their lack of inclusive education training. The lack of knowledge of inclusion is revealed to be a cause of negative attitudes, thus acting as a barrier to its success in schools.

Several existing federal legislations around the world mandate that Learners with Special Educational Needs (LSENs) are required to receive their education within an environment. Teachers, as well, should be provided with sufficient training and support to make themselves equipped with the skills and expertise before they can handle learners with special needs in an inclusive setting. In the United States of America, the Individuals with Disabilities Education Act (IDEA 2004) and the Special Education Needs and Disability Act of 2001 in the United Kingdom continue to provide adequate educational support to learners with special needs, including the assertive provision of any forms of support to teachers including teacher training.

In the Philippines, the Department of Education (DepEd) advocates the fundamental principle of inclusive schooling that all children should learn together, whenever possible, regardless of their difficulties or differences. Under the management of the Special Education Division of the Bureau of Elementary Education (BEE), the ultimate goal of special education is integrating or mainstreaming learners with special needs into the regular school system and ultimately in the community.

This move by DepEd is in accordance with the United Nations Education Scientific and Cultural Organization (UNESCO) as stipulated in the UNESCO Tool Kit-Book I on Inclusive Education. The toolkit offers a holistic and practical guide on how classrooms can be more inclusive and learning-friendly by assessing the school's inclusive practices in the following areas: school policies and administrative support, school environment, teacher skills, knowledge and attitudes, teacher development, pupils, academic content and assessment, special subject areas/extra-curricular activities and community. Upon their acceptance of Learners with Special Educational Needs (LSENs), Filipino teachers embrace this principle in recognition of its vital role in providing basic quality education for all.

In 2008, former Department of Education Secretary Jesli Lapus presented a report at the United Nations Convention in Geneva, Switzerland, about the status of the Philippine Education System, including inclusive education for special children. In his

statement, he expounded that the department provides opportunities for continuous upgrading of teachers' professional competencies through self-instructional learning modules.

Unfortunately, regular Filipino education teachers in the actual field experience the opposite plight. Findings conducted by Yap and Adorio (2008) show that the competence of teachers appeared to be one of the major problems in promoting special education in public schools due to inadequate information or lack of training of teachers. The study also affirms that many regular teachers were not knowledgeable of Special Education (SpEd) programs, including the formulation of Individualized Education Programs (IEP) among others.

In Davao City, Philippines, a study by Gomez (2012) in a particular school clearly pointed out that regular education teachers and most school personnel are generally not trained to address concerns about students with special needs. Teachers are also uninformed ahead of time that they have students with disabilities in their class lists. Since they are aware of the "zero rejection" policy in schools, they are left with no option but to accept learners with special needs in their classes without any knowledge about them and their conditions. Thus, many teachers do not have any inkling on how to handle learners with special needs inside and outside the classroom.
As recommended, Gomez emphasized that issues and concerns relative to the implementation of inclusive education can be successfully implemented by hearing the sentiments of the teachers and those students with special needs.

Another study was conducted by Casquejo and Vitto (2019) on the views of selected kindergarten teachers implementing inclusive education in identified public schools in Matina District, Davao City, Philippines. Results conclude that most kindergarten teachers remain unaware and unequipped for the effective implementation of inclusion. It also concludes that the inclusion caused the kindergarten teachers distress, frustration, exhaustion, and disappointment. If these are not addressed in a timely manner, holistically and scientifically, the supposed Kindergarten teachers will remain unequipped and unprepared, thus affecting the Learners with Special Educational Needs (LSENs). to be given the proper education that they deserve. However, the respondents and the researcher remain hopeful that they will be given the support and training for inclusive education, which will make the LSENs more competent to face the community or even the workforce.

It is in these premises that the researcher purposely conducted this study in order to recognize the important roles of teachers in shaping the realization of inclusive education in the classrooms. The researcher in school actually observes the occurrence of this problem. This study will particularly focus on investigating how non-trained teachers implement inclusive education and how they overcome the challenges they experience in handling learners with special needs despite their lack of inclusive education training. Ultimately, the main phenomena will reveal the success cases of these teachers. Although a bunch of research focuses on the different challenges of teachers in inclusive education, little research has focused on overcoming the

challenges they continually face as they apply inclusive education to full actualization inside their regular classrooms.

RESEARCH QUESTIONS

This study aimed to explore the experiences of regular teachers in implementing inclusive education in a sole Special Education school in Baguio District, Davao City Philippines. It aimed to have an in-depth description of the challenges encountered by regular teachers in teaching learners with special needs (LSENs) in their regular class, how they cope, and how they overcome these challenges. Ultimately, it sought to go deep into the stories of the success of these regular teachers. Specifically, this study sought to answer the following research questions:

1. How do regular teachers implement inclusive education?
2. How do regular teachers overcome challenges in the beginning, middle, and present?
3. How do they appreciate the successful cases?

METHODOLOGY

This study utilized a qualitative research design; mainly, a narrative approach and thematic analysis were utilized in analyzing the data. The narrative approach was employed in this study in order to tell the stories of six regular education teachers through their individual lives and write narratives of their experiences in overcoming challenges in inclusive education despite their lack of inclusive education training. It was also emphasized in this study their success stories of how they were able to surpass the challenges they faced in implementing inclusive education. The key informants of the study were the six licensed professional teachers of a sole Special Education school in Baguio District, Davao City, Philippines that caters to Learners with Special Educational Needs (LSENs). They were selected as participants through purposive sampling.

The research instrument utilized in this study is a researcher-constructed interview guide. The interview guide enabled the researcher to gather information from the participants. The interview guide comprised of two parts: Part 1, involved the demographic profile of the regular teachers handling Learners with Special Educational Needs (LSENs) in their regular class. Part 2 was composed of interview questions that sought to answer the purpose of this study.

In analyzing the data, the researcher utilized thematic analysis. This study focused on themes and codes. The six phases of thematic analysis by Braun and Clarke (2006) were followed in this study and applied systematically. This study also underwent the appropriate research procedure and proper ethical protocols to ensure that the participants were kept completely anonymous in the research, and the interviews were held confidential to maintain the objectivity of the study and to keep the identities of the participants of this study completely anonymous thus maintaining their rights.

This study utilized a non-probability sample that was selected based on the population's characteristics and the study's objective. Purposive sampling is also known as judgmental, selective, or subjective sampling. Hence, this study only applies to qualified samples based on the criteria needed for the study. There are only a few key informants since this study is particular to the qualifying criteria.

RESULTS

Based on the data analysis, the study concluded with three primary themes: implementation of inclusive education, overcoming challenges in inclusive education, and success stories. Moreover, the study revealed the overarching themes of each primary theme. The overarching themes are explored through discussions based on the accounts of the key informants of this study.

Implementation of Inclusive Education

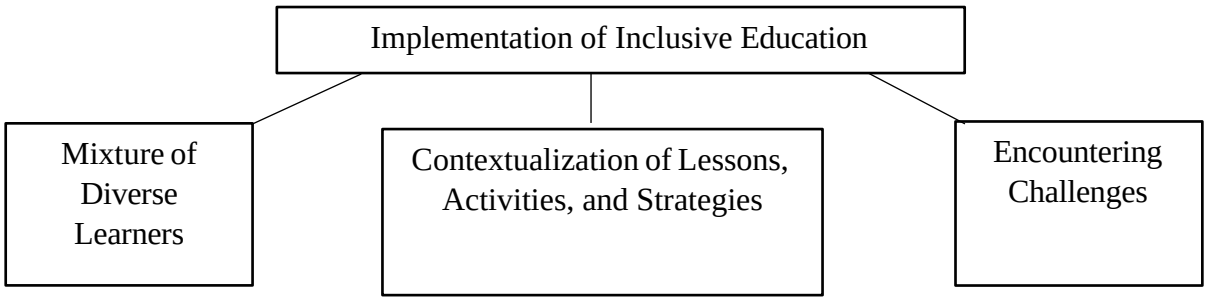


Figure 1. Thematic map showing the main theme 'Implementation of Inclusive Education' and associated subthemes

Overcoming Challenges in Inclusive Education

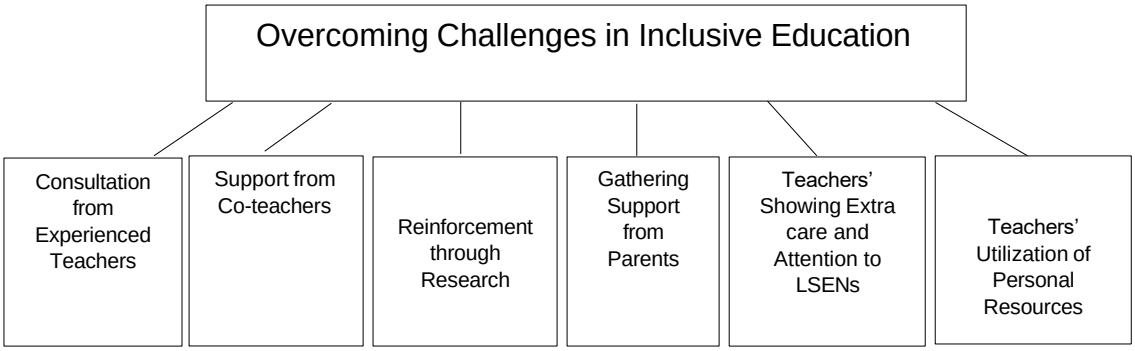


Figure 3: Final thematic map showing the main theme 'Overcoming Challenges in Inclusive Education' and associated subthemes.

Success Stories

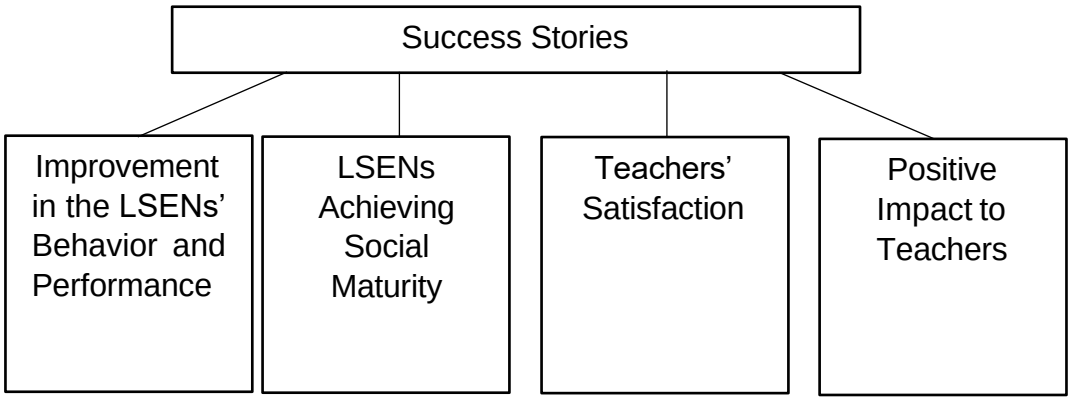


Figure 4: Final thematic map showing the main theme 'Success Stories' and associated subthemes.

DISCUSSIONS

Inclusive education is always been a pressing concern not just in the Philippines, but in other parts of the world as well. This issue should be appropriately addressed by providing an adequate school system that accommodates the necessities of students with special needs. Teachers play crucial roles in implementing inclusive education since they directly interact with students. Hence, in this study, the teachers' roles and experiences are explored to shed light on some situations in handling inclusive education.

Implementation of Inclusive Education

In the pursuit of taking the task of educating diverse learners in an inclusive setting and performing their most crucial responsibility of making inclusive practices into action, key informants revealed their way of implementing inclusive education despite the lack of formal training. Responses involve their way of implementing inclusive education based on the following themes: mixture of diverse learners, training, contextualization of lessons, activities and strategies, and challenges.

Mixture of Diverse Learners. The response of key informants in terms of how they teach in a classroom setting with learners with special needs and regular learners at the same time revealed that they taught the day's lesson to the whole class as one with the learners with special needs and the regular learners. This kind of setting was common to most responses of participants.

"Sa akong klase, ginadungan nako siya sa akong regular learners' kay makablend man siya sa ilaha." ("In my class, I let him join with regular learners because he can blend with them."), KI-1
"Ginadungan nako siya sa uban pag magdiscuss na sa lesson. Dili siya ginalah maski pa sa iyang condition nga hina siya ug pagsabot." ("I joined him with others during discussion of the lesson. I did not isolate him with others despite his condition of being slow in compehension"),
KI-3
"Ang akong style sa teaching-learning instruction, ginasabay jud nako siya sa mga regular,dungan gud ug group activities pati sa pagdeliver sa lesson sabay." ("My style during teaching learning instruction was I included him together with my regular learners during group activities and even during delivering the lesson."), KI-4
"Una, maghatag ko'g instruction nila tanan sabay, pati pagtudlo sa lesson sabay." ("First, I gave them the instruction together and teaching the lesson at the same time"), KI-5
"While nagatudlo ko sa regular, siya naa siya sa likod tapad sa akong lamesa, tagaan nako siya activity. First to second grading na. Pagka third grading, giapil na nako siya sa group." ("While I teach the regular learners, he was seated at the back near my table, I provided him with activity. That was from first to second grading. During the third grading, I let him join with the group."), KI-2

On the contrary, key informants attested that they isolated the LSENs from the group in terms of activity sheets or worksheets that catered the particular need of the learners.

"Naa siya'y worksheet nga iyaha lang, dili pareha sa worksheet sa regular, para sa iyaha lang" ("He has his own worksheet for him alone, not like of the regular learners, it was only for him."), KI-3
"Paghuman sa klase, ginatagaan nako siya ug lahi nga activity sheets. ("After classes, I gave him differentiated activity sheets"), KI-6

As Salend (2005) defined inclusion principle, it is when all learners regardless of disabilities they may, are placed in regular education classes together with regular learners to receive high quality instruction, intervention and support. Clearly, informants' set-up of mixing diverse learners in one classroom setting corroborated the inclusion principle as defined.

Despite their seemed familiarity with inclusive education, the participants expressed doubts regarding their conceptions and practice of it. This ambiguity embedded from their lack of knowledge and trainings in teaching inclusive education.

This is not a startling observation since they are not required to undergo a series of compulsory and mandatory inclusive education trainings before they will receive mainstreamed Learners with Special Educational Needs (LSENs) in their regular class. Therefore, in order to take the responsibility positively, regular teachers implemented

inclusion in its basic sense that is mixing diverse group of learners in one classroom setting.

Similarly, Forlin, Earle, Loreman, and Sharma (2011) emphasize in their study on preparing pre-service teachers that “preparing teachers in inclusive schools requires universities and colleges to ensure that their curriculum covers sufficient detail to enable newly-receiving teachers to cater for the increasing diversity of student needs.” Much is true for in-service teachers who have no background.

Contextualization of Lessons, Activities and Strategies. Inclusive Education (IE), in its very sense, aims to ensure that diverse learners are accorded equal rights and opportunities in education. It does not have one sole definition or method of implementation to suit all individuals and situations. It stresses more on evolving inclusive practices which can be adapted in various contexts.

Having insufficient prior knowledge about implementing the inclusion curriculum, key informants shared how they implemented inclusion in their own context. As revealed, contextualizing the curriculum for the teaching and learning activities in an inclusive setting was their way of implementing inclusion. Despite the lack of training and orientation in implementing inclusive education in the regular class, key informants conducted classroom activities in their own contextualized way in order to ensure the provision of good, if not quality, form of education for LSENs.

Faced with different unfamiliar cases and severity, regular teachers contextualize teaching strategies that address the individual needs of their LSENs. To develop the socialization skills of the LSEN, group activities and practical training proved to be effective for the teacher. One informant shared:

> *“Para madevelop iyang socialization, nagagroupings ko. Ginapastorya nako siya sa regular magdrawing sila ug magcolor-color sila. Ginatrain pud nako siya ug mga gaan lang nga sugo.” (“To develop socialization, I do groupings.I let him talk with regular peers while drawing and coloring. Then I also trained to perform manageable errands.”), KI-1*

Key informants who had learners with Learning Disability (LD), catered their needs making use of their own contextualized strategies. Key informant 2 explained her style in teaching:

> “*Sa reading niya sa Filipino, ginapafamiliarize nako sa iyaha basta naay A pareha sa ba, ihap siya’g 1, kung e pareha sa be, kay 2, kung i, bi, ihap ug 3. Kanang ana ra gud.” (“In reading Filipino words, I let him familiarize, if the word has ‘a’ as in ‘ba,’ count 1, with ‘e’ as in ‘be,’ count 2, with ‘i’ as in ‘bi,’ count 3. As simple as that”), KI-2*

Key informants 4, 5 and 6 utilized manipulative materials as effective learning aids in conducting remedial instruction to their learners with Learning Disability (LD). They explained respectively:

> *"Ginatagaan nako siya ug flashcards nga siya lang. Unya, akong checkan iyang trabaho." ("I gave him flashcards on his own. Then, he will let me check his work."), KI-5*
> *"Nakarealize ko nga dapat manipulate gyud. Pareho sa paggunit ug balas". ("I realized that the child should manipulate things like using sand."), KI-5*
> *"Naa koy mga letter patterns, ginapatrace nako siya. Unya, mugamit pud ko ug graphic organizer para sa sayon lang nga story unya pangutan-on nako siya paghuman." ("I have letter patterns, I let him trace the letter. Then, I also use graphic organizers for simple stories and asked him questions after."), KI-6*

For most participants, they claimed that the strategies and activities they employed were much effective even if they had not undergone formal inclusive education trainings.

Dakar and Senegal (2000) stressed that IE does not have one single definition or method of implementation. It stresses more on evolving inclusive practices which can be adapted in various contexts. Key informants' differentiated ways of conceptualizing lessons, activities and strategies only suited well inclusion's goals of enhancing LSENs' participation, promoting child-centered approaches to teaching and learning and minimizing exclusion, in a manner that successfully addressed the diverse needs of all learners. In this set-up, education is also accessible without discrimination. Informants' accounts clearly viewed that they are on the right track of implementing inclusion practices. Additionally, Salend (2005) suggested that effective inclusive educators are expected to differentiate their teaching methods and techniques to meet individual needs and strengths.

Challenges Encountered. As key informants struggle to implement inclusive education, they experienced varied challenges. They shared their most common challenges in implementing the inclusion curriculum particularly in the classroom management. Since there is no clear and definite guide for teachers to be followed in this multifaceted classroom set-up, teachers felt the different forms of challenges. Challenges encountered involves in key informants' knowledge, attitude, resources, parent support and administrative support.

***Training*.** In this study, participants were asked about the number of the trainings in inclusive education they attended and how these trainings support the adequacy of their knowledge in handling learners in an inclusive setting. Identically, Key Informants responded to the questions in terms of number of trainings in inclusive education they had attended and courses taken part in teaching Learners with Special Educational Needs (LSENs).

The Key informants commonly shared that they had not attended any inclusive education teacher trainings and seminars in the different levels: school, district and division. Neither have they taken part in any courses in teaching learners with special needs. Key informants resounded the same answer that for a year of accepting and dealing with LSENs in their regular class, they were not able to undergo any trainings and seminars about inclusive education provided for them in school, district and even in the division level.

> *"Wala ko kaattend ug training sa school Ma'am.Sa district, wala. Wala pud sa division, Ma'am." ("I have not attended training in school Ma'am. In the district, none. There is also none in the division, Ma'am"), KI-1 "Trainings sa school? Wala ma'am. Sa district ug division, wala pud Ma'am. ("Trainings in school? None ma'am. In the district and division, there is also none Ma'am"), KI-2*
> *Sa school Ma'am, wala man. District? Wala Ma'am. Sa division, wala" ("In school Ma'am, there was none. District? none Ma'am. In the division, none."), KI-4*
> *"Wala man sa school. Wala pud a district. Division Ma'am, wala." ("Nothing in school. Nothing also in the district. Division Ma'am none."), KI 6*

These accounts of key informants manifested the lack of provision of trainings in inclusive education before they are given the task of practicing inclusion. Prior to the acceptance of Learners with Special Educational Needs (LSENs) in their regular class, key informants were not given the opportunities to prepare and equip themselves with the knowledge and the expertise in handling an inclusive learning environment with varied and diverse group of learners.

Since key informants could tell the inadequacy of formal inclusive education trainings they have attended, evidence affirmed that informants also considered themselves inadequately knowledgeable and less competent in handling this kind of learners in an inclusive setting. This was confirmed by the similar answers of the participants that quoted:

> *"Kulang jud. Basi nana pud imainstream basi lahi na pud nga case. Kanang mga down syndrome, wala pako katesting basi imainstream ba. Unsaon na lang paghandle anang uban. Okay ra ng mga mild lang. Pero kanang mga lisod unsaon na lang paghandle ana nila kay wala man ko kaagi ug naa bay training para ana nila." ("Really not enough. Another LSEN may be mainstreamed and the case may be more difficult to handle. Just like the down syndrome, I was not able to handle them yet. How am I going to handle this kind of learner? Mild cases are okay. But with complicated ones, it would be so difficult for me to handle them because I do not have any trainings intended for them".), KI- 1*

> *"Wala ko'y trainings naatenan so wala kaayo'y makatabang sa akong kabalo unsaon paghandle ang inclusive education especially sa mga special children." ("I have no trainings attended so it would not suffice my knowledge in handling in inclusive education especially with special children."), KI-2*

The common answers of participants clearly showed that lack of teacher training in inclusive education posed as a big challenge for regular teachers in implementing inclusive education.

Rivkin, Hanushek, and Kain (2000) suggested in their study, that as teachers who cater LSENs in a mainstream school, one must undergo an in-service training organized by his/her local education authority to boost their experience. This may be because students are known to learn more from experienced teachers than they do from less experienced teachers. This also suggests that teachers with more teaching experience teach in a more effective way than those who are less experienced.

The key informants stated their knowledge of inclusive education with the awareness that it requires extra effort to succeed and that inclusion goes beyond the scope of general education that includes only students without special needs. Though supportive of inclusive education, the participants spoke of it with the admission that they are lacking in basic knowledge about their claimed inclusive practices. They believe that they practice inclusive education, but they are not quite certain whether the conceptual basis of their practice is sufficient to meet the standards of high-level inclusion. These observations are further substantiated with verbatim citations of some participants' answers during the one-on-one interviews. Participants commonly shared their sentiments about how hard it is to implement inclusive education without adequate trainings.

> *"Naglisod ko kay wala man gud ko'y idea unsa ning condition aning bataa. Maayo unta nakaagi ko'g training para nakaidea ko gamay" ("It was really hard for me since I do not have the idea about this child's condition.It would have been better if I had undergone training so I can have even a little amount of idea"), KI-2*

It was common to the participants to describe inclusive education as an activity requiring additional effort to attain its practitioners' goals. Evidently, the participants' accounts affirmed their difficulty in implementing inclusion practices since they do not have the background and foundation through adequate and sufficient number of formal and quality inclusive education trainings.

Findings of the study also align with the study by Casquijo and Vitto (2019) to untrained Kindergarten teachers. Results concluded that the views and experiences of kindergarten teachers with inclusive education will persistently be unfavorable if they remain to be unacquainted and untrained with inclusion in terms of assessment, different learning and behavioral disorders, strategies to manage children with special

needs and management of inclusive classroom. A call for support, dissemination and training for inclusive education is hoped to be enhanced.

***Knowledge*.** One cannot practice what one does not know. Prior to regular teachers' first-time implementation of inclusion in their respective classrooms, they were asked to share their knowledge about their Learners with Special Educational Needs (LSENs). In this study, their knowledge about LSENs is associated with the awareness and the ability of the regular teachers to identify the case and condition of their LSENs thus having the competence to cater their needs in an inclusive classroom setting. The participants have similar responses regarding their knowledge and awareness about the condition of their LSENs. Three out of the six key informants forthrightly revealed that they were not fully aware about the conditions of their LSENs by the time they accepted them in regular class. This was shared by the participants when they said:

> *"Wala jud ko'y idea. Maski pag gibasa nako ang result sa iyang diagnosis, wala gihapon ko kakuha unsay pasabot ato." ("I really do not have any idea. Even if I have read the result from his diagnosis, I still did not know the meaning behind it"), KI-2*
> *"Honestly, dili ko aware sa condition sa bata. Kato lang nag end na jud ang school year nga gi fill-out nako ang LRN sa LIS kay kailangan man i-indicate ang condition sa bata.Nakaingon gud ko, aw ing-ani diay ni iyang case?" ("Honestly, I am not aware of the boy's condition. Just during the end of the school year when I filled out the LRN in the LIS because it was compulsory to indicate the condition of the child. I have asked myself, this was his case means."), KI-3*
> *"Pagsugod jud, feeling nako di ko prepared kay wala man koy kabalo ani iyang batasan oi. Mao to naglisod ko unsaon pagmanage niya" ("In the beginning, I felt unprepared because I am unfamiliar of his behaviour. That's why I have difficulty how to manage him."), KI-4*

Though they have limited knowledge about the condition of their LSENs, they never hesitated to accept the child because of the "no rejection" policy which they obediently followed. A participant shared:

> *"Wala ko'y idea aning iyang condition. Gidawat lang nako kay bawal man mudili." ("I do not have any idea about the condition of the child. I just accepted him because it is unlawful to reject him"), KI-6*
> *"Gidawat lang pud nako kay mao may kailangan." ("I just accepted because that is what is needed."), KI-3*

The accounts of the key informants showed that they lack basic knowledge about the kind of condition of LSENs that they are handling with. They have no choice but to implement inclusion because they are bound by their profession to teach diverse learners. The accounts of teachers clearly gave emphasis in the study of Gomez (2012) about teachers left with no option but to accept LSENs in their class without any

knowledge about them and their conditions because of the “no rejection” policy with which they are obliged to obey.

Because of this difficulty, key Informant 5 also revealed the burden she experienced in conceptualizing more differentiated and innovative techniques to suit her LSENS’ needs since she had limited knowledge on the different techniques in teaching in an inclusive classroom setting and basically about her LSEN.

> *“Challenge sa akoa unsaon pag improve sa iyang disability ug unsaing technique itudlo sa iyaha. Halimbawa, di na mutalab ang peer tutoring sa iyaha, challenge kaayo unsas pay gamition nga technique, unsa pang mga pamaagi nga matudluan siya.” (“It was a challenge for me to improve his disability and what appropriate technique I am going to teach him.For example, if peer tutoring was already ineffective for him, it was a challenge to think of another technique, other strategies to teach him.”), KI-5*

It is salient that the responses of the key informants about their knowledge with the condition of the Learner with Special Needs (LSENs) under their regular class clearly manifested the lack of basic knowledge of regular teachers about implementing and handling inclusion as one of the challenges of regular teachers. Key informants manifested in their responses;

> *“Pirti gyung lisuda kay wala gani ko kabalo unsaon na siya. Naglibog ko unsay buhaton niya. Sige kog naanalyse analyse unsa akong buhaton niya para magpuyo kay di man maapply sa iyaha ang activity sa uban. Unsaon kaha ni noh?” (“Very hard because I really did not know how to handle him. I felt doubtful what to do. I kept on analysing on what to do to make him stay in place because the activities for my regular learners were not suitable for him. What will I do?”), KI-3*
>
> *“Lisod oi kay kailangan jud siya ug special attention, unya makigdungan pani akong mga regular magsaba ug magkagubot ang klase. (“It was difficult because special attention should be given to him, at the same time, my regular learners would also make noise and chaos in class.”), KI- 2*

Key informants accounts can be reflected in the overall response of participants in the study of Muega and Echavia (2011) that revealed the teachers’ unpreparedness in taking on the challenge of handling students with disorders or disabilities.

Curriculum is often unable to meet the needs of a wide range of different learners. In many contexts including inclusion, the curriculum is centrally designed and rigid, leaving little flexibility for local adaptations or for teachers to experiment and try out new approaches. The content might be distant to the reality in which the students live, and therefore inaccessible and not motivating. When it comes to barriers to inclusion the analysis implies very significant and profound factors that inhibit successful inclusion.

***Attitude*.** Educators are the most significant human resource for advancing inclusive education. Their proficiency and outlook have a dramatic impact on the lives of learners who are different and who have learning challenges. Unfortunately, the teachers' competency and attitudes can be the most important constraints for inclusive education. Apart from lack of technical ability is the teachers' attitude. In this study, participants described their feelings, behaviors and attitude towards implementing inclusive education practices.

In her first-time encounter with an inclusive classroom setting, one teacher described in detail that a feeling of anger filled her because of her lack of knowledge about her learner. So, a teacher noted that:

> *"Honestly, kay wala man ko kabalo unsay buhaton, naglagot ko. Kay sige man ko balik-balik sa lesson para sa akong special child, gidungag pa sa akong mga regulat. Samot pa kay wala ko'y idea. Mao to naglagot ko ani nga setting.", ("Honestly, since I really did not know what to do, I felt anger. Since I had to reiterate again and again the lesson for my learner with special needs, in addition to the regular learners. More so, I really did not have the idea what to do. And so, I felt so angry in this kind of classroom setting"), KI-6*
>
> Negative response to inclusive setting was also confirmed by more participants.
>
> *"Sa pagsugod, nagduha-duha ko basi mukalit siya ug tantrums. Hilom- hilom lang unya diay to naay probelma. Makahadlok pud." ("At first, I was so hesitant because I thought he might have tantrums. Maybe he was just silent but maybe inside he has inner problems, it was fearful."),*
> *KI-1*
>
> *"Na-stress ko tibuok tuig kay isa nga factor wala ko'y alam. Feeling nako gisayang nako ang whole yeay nga naa siya sa akong klase." ("I was stressed the whole year because one of the major factors was I had no experience. I felt I wasted the whole school year that he was in my class."), KI-2*
>
> *"Makalibog jud. Gitagaan ko'g stress kay di man ko kabalo unsaon pagdungan ug handle nila nga combination sa regular ug special." ("Very confusing. It gave me stress because I did not know what to do how to handle a class with a combination of learners and special child."), KI-5*

Keenly delving into the responses, majority of the participants negatively considered handling a large class with additional learners with special needs. Most of them told that they could not concentrate focusing in teaching with diverse and different group with extremely different conditions and cases. One of the participants expressed her difficulty. KI-3 was handling a regular homogeneous class with fast learners. Mainstreamed in her class was a learner with Learning Disability (LD). In this class, extreme cases were observed. She expressed her sentiments as she quoted:

“Kani nga classroom setting lisod jud para sa akoa. Kay di ka kafocus sa imong lesson. FL class man akoa unya LD siya. Although isa lang na ka bata pero dako siya ug factor nga makadistruct siya sa lesson kay mutukar siya naa siyay times mutantrums siya. Sa first grading, maayo na kaayo akong lesson, tingala nalang ko naay nibuto, nagapanumbag siya, manluwa siya. Challenge jud kaayo siya sa pagpanudlo nako. Tanang pag-ampo ako ng gibuhat.” (“This kind of classroom setting was really hard for me to handle. He may be only one in class but it was a big factor because I considered him as a distraction every time his tantrums were triggered. During the first grading, I expected that my lesson ran smoothly, suddenly, I heard one of his seatmates crying because he was hit by... He was really one of the greatest challenges in my career. I have said all prayers just for him.”), KI-3

Another participant expressed her dislike in this inclusive classroom setting. She comprehensively pointed out her stand:

“Honestly, di nako siya type kay kung naay special nga bata with special needs, dapat lahion jud kay di jud sila mahatagan ug pansin kung naa siya sa regular class. Kay kanang learner with special needs di man na sila nagaafter nga makagrado. Kay ang regular, nagaafter ta nga makagrado ug asa siya sunod nga section ibutang, whereas sila, hulat lang tas ilang development.Siguro mam tungod sa naa koy sayings nga kanunay nako ginabutang sa akong kasingkasing nga “A loving teacher diay makes a classroom nga ang mga bata feel at home. Siguro pud sa akong motherly nga pagtudlo sa ilaha, nacater nako akong regular, at the same time, nacater nako akong special nga bata.” (“I honesty do not like this classroom setting because I always `believed that learners with special needs should be separated from regular learners because he could not be given proper and special attention if combined within a regular class. In a regular class, teachers are looking after the academic improvement of learners, whereas, an LSEN has different phasing. We need to wait for their development by the time they are ready.”), KI-5

Key Informant Interview 3 revealed that she had not exerted much dedication in educating the LSEN and planned to reject the child for the next school year, being afraid of handling the child again for another year.

“Wala kaayo ko nag-exert ug effort. Human isa ka tuig, happy na lang ko nga humana. Nag-suggest ko sa Sped teacher nga di na siya ibalik nako. Ibutang siya dapat sa non-gaded.” (“I have not exerted much effort. After one year, I was happy that the year ended. I suggested to the Sped teacher not to let the child go back to me. He must be placed in the non-graded.”), KI- 3

Similarly, Caroll's study (2003) on the views of Australian regular teachers reflected the negative attitude of informants on inclusion. Teacher's attitude clearly is one of the important factors to be considered before the actual implementation of inclusion. Their attitude is a contributing factor to its success or failure. If teachers do not have optimistic attitude towards children with special educational needs, meaningful education for them is far-fetched.

Resources. Among the most striking challenges of key informants is the lack of knowledge in formulating activities that will suit the LSENs needs. One key informant revealed how struggling it was to cater the need in providing appropriate resources for both her LSENs and regular learners:

> *"Challenge sa ako mangita ug activities nga haum sa iyang cognitive abilities. Naa pakoy mga regular. So, challenge sa ako mangita ug activities nga challenging nga i-work niya sa school." ("It was a challenge for me to find activities that will suit his cognitive abilities. I also had my regular learners. So, the challenge was to find activities that are challenging for him to work on in school."), KI-1*
> Key informant 2 affirmed the previous statement as she said:
> *"Lisod kaayo mangita ug resources ihatag sa iyaha." ("It was a big problem for me to find what resources to provide him."), KI-3*

More key informants confirmed the accounts of the abovementioned informants:

> *"Lisod maghimo ug worksheets nga unique para lang sa iyaha." ("I was so difficult to make worksheets unique for him"), KI-5*
> *"Libog ang pagprepare sa activities, ang instructional materials pud". ("I was confused in preparing the activities… the instructional materials as well"), KI-6*

The above-mentioned experience of the participants aligns with the similar findings in the Report on Special Needs Education: Appraisal Exercise by the Ministry of Education in Kenya (2003). The findings in the report revealed that most schools lacked necessary teaching-learning resource materials and did not offer orientation and staff development opportunities to regular teachers. It was concluded that the effectiveness of inclusion was hampered by insufficient teaching-learning resource materials and poor staffing.

Moreover, studies of Santoli et. al (2008) demanded for the professional development trainings on inclusion for general education faculty. Barriers and challenges in inclusion can be holistically addressed if teachers, themselves, are equipped with the necessary preparations in implementing inclusion. Concrete, specific and on-going special education trainings must be accorded to receiving teachers. Not only does this addressed teacher problem but most significantly, it can affect teacher success in teaching inclusive classrooms.

***Parent Support*.** In terms of parent's attitude, participants were also asked about the reaction of the parents, both of the LSENs' and of the regular learners', towards inclusion of their LSEN in the regular classes. Majority of them responded that their parents positively accepted the classroom set up of mixing their LSENs together with regular peers in a regular classroom setting. Their responses were:

> *"Wala may reklamo sa parents. Pasalamat pa gani sila." ("There were no complaints of parents. They were even very thankful"), KI-1*
> *"Murag..wala ma'y nagreklamo nga parent sa akong special sa pag-mix sa iyaha." ("I think… there were no complaints by parents of my child with special needs against the mixture."), KI-2*
> *"Wala man nuoy negative reaction ang parents sa bata nga naa siya sa akong regular class." ("I have not received any negative reactions of parents of special child placing her in the regular class."), KI-5*

Participants' accounts aligned with the result of a qualitative study for teachers by Elzein (2009) wherein 15 parents were examined regarding their attitude toward mainstreaming children with special needs into regular private elementary schools in Sidon-Lebanon. In majority, the participants showed positive attitude towards the various aspects of inclusion, types and levels of inclusion.
Among the reactions of parents towards inclusion discussed, one came out differently. One of the participants revealed an incident where one of the parents of her regular learners expressed negative thoughts about placing the LSEN with the regular peers. She quoted:

> *"Yes, naa koy parent nga niingon nganong isagol man na mam nga buang-buang man na, wala man nay buot.Concern siya para sa iyang anak ". ("Yes, I had a parent who asked why should that child be mixed in this class, that child is insane, no manners at all. She has concern for her own child."), KI-6*

With regards to parent attitude on inclusion, most studies in the field of research are roaming around the attitude of parents of learners with special needs (LSENs) placing their child in the regular class. But limited studies focused on the reactions of parents of regular learners. The scenario revealed by the participant mentioned above was somewhat threatening.

Leyser and Kirk (2004) suggested that parents should develop positive attitude towards mainstreaming their LSENs in the regular classroom setting in order to promote a least- restrictive environment for them. Furthermore, the findings of Bennett and Gallagher's study recommended that parent support must be intensified for a successful inclusive setting for diverse learners.

Dash (2018) concluded from the major findings in her study that some of the greatest barriers related to inclusion in education are negative attitudes. Many people are not prepared to interact with people with disabilities. Often, they are the object of ridicule or

outright ostracism in school and community. As with society in general, it is important that consistent and strong advocacy must be given to them considering that negative attitudes and stereotypes are often caused by a lack of knowledge, understanding, and acceptance of persons with disabilities and LSENs in general.

Administrative Support. All forms of support from school administrators and leaders are crucial to the success of inclusion in schools. But teachers' real experiences were disputable to this statement. Teachers, with hesitation to reveal the actual scenarios in school, divulged that despite their efforts to implement inclusive education, they were not compensated with the necessary support they should have been entitled and privileged to receive. Key informant interview quoted the following:

> *"Sa una pagsugod ug Sped Center sa school, ang principal nagahatag sa amoa ug materials pero karon, wala na, pati trainings." ("During the early years of the school's becoming a SpEd Center, the principal was supportive in providing us materials but for now, there were none, even the trainings."), KI-1*
> *"Honestly? So far, wala naman koy nadawat in any form of support sa principal oi." ("Honestly? So far, I haven't received any form of support from the principal"), KI-2*
> *"Sa principal? Wala man. Wala man koy nadawat jud." ("From the principal? There was none. I haven't received any at all."), KI-3*

The accounts revealed by the key informants were supported by the Sped teacher and a regular co-teacher of the key informants in a short yet significant interview with them. The Sped teacher recounted:

> *"Actually, sa pagsugod sa pagka Sped Center jud sa school, okay man, Kompleto pa to ug mga materials ginahatag sa amoa. Pero kadugayan na, katong time na giisa na ang Sped fund sa MOOE, wala naman. Mas lahi na ang priority. Tibuok school na ang mas prioritize. So wala jud training nahitabo" ("Actually, during the early years of the implementation of the school as a SpEd Center, it was good. We were given complete set of materials. But as the years passed, by the time SpEd fund was merged with MOOEs, there was no more support. The school had different priorities. More priority was given to the entire school. There was really no training at all.")*

Similar statement was also given importance by a regular co-teacher of the key informants. She mentioned:

> *"Dili na priority ang mga SpEd kay ang tibuok school naman jud kay giisa naman ang MOOE. Mas daghan ug needs ang tibuok school nga dapat tagdon" ("SpEd is not given much priority. Priority is given to the whole school because of merging of MOOE (Maintenance and Other*

Operating Expenses). The entire school has various needs that needs to be addressed.")

These parallel narratives confirmed by other personnel in school clearly showed the critical and alarming condition of Special education in the actual field, leaving the regular education teachers helpless in implementing inclusive education practices. Indeed, this is a real scenario that calls for positive response from proper authorities.

The aforementioned accounts contradictorily tantamount to the ideal concepts that inclusive education should have been implemented. As emphasized in the recommendations presented in the study by Omapoy and Zerrudo (2019) conducted to different principals, for inclusion to be effective, managerial interventions must be contributed by principals to their teachers. One intervention that is closely linked in this study is for principals to provide administrative support in any forms to their teachers such as capability building trainings on inclusive education for teachers and strengthening of instructional leadership.

The positive relationship of administrative support to success of inclusion was commonly suggested in much of the research (Siegel, 1992; Barnett & Monda-Amaya,1998; Cook et. al. 1999; Villa, Thousand, Nevin & Liston, 2005; Santoli, Sachs, Romey & McClurg, 2008). It is but disappointing to note that informants experience challenges related to lack of administrative support.

The above-mentioned accounts of the key informants sum up the different challenges and problems they encountered in implementing inclusive education. The findings on these problems were also proven and existent in the study of Gerber (2011). Among the enumerated challenges of inclusive education at elementary level in Gerber's study are lack of confidence of teachers to teach in inclusive settings, lack of training given to teachers how to teach in the inclusive education, no feedback from supervising officers have been provided about what the teachers are doing, curriculum is not adapted to the needs of special needs children. It was also stated that a classroom teacher is expected to select educational methodology to best suit each student.

Overcoming Challenges in Inclusive Education

To dig deeper into the teachers' experiences in implementing inclusive education for students with special needs, the researchers explore the teachers' challenges and how they overcame them to provide for the special needs of the students. This study found the overarching themes related to this aspect: consultation from experienced teachers, support from co-teachers, reinforcement through research, gathering support from parents, teachers' extra care and attention to LSENs, and teachers' utilization of personal resources.

Consultation from Experienced Teachers. Teachers are resourcefulness in many ways. Bombarded with negative challenges towards implementing inclusion, teachers find ways to suffice the lack of technical support they could get from others. As revealed by participants, they outsource information about inclusion and generally,

special education and sought help on different forms from reliable and experienced co- teachers particularly the Special Education teachers of their school. Participants revealed:

> *"Nangutana ko ug ideas sa akong mga kauban nga teachers unsa akong buhaton." ("I asked and sought ideas from my co-teachers on what I will do"), KI-1*
> *"Nag-interview ko sa among Sped teacher, nangutana ko bahin sa among bata nga gimainstream ug sa background niya para makabalo ko unsaon siya paghandle." ("I interviewed Sped teacher, asked prior knowledge about mainstreamed learners and asked background of the special so I would know how to handle him".), KI-2*
> More key informants confirmed the accounts when they said:
> *"Maliban sa nagreseach ko, nangutana pud ko sa akong mga kauban nga teacher, especially katong mga hawd na jud pareha sa mga Sped teachers." ("So aside from doing research, I also asked my fellow teachers, especially the experienced ones such as the Sped teachers".),*
> *KI-4*
> *"Nagapangayo pud kog tabang sa akong mga co-teachers." ("I also seek the help of my co-teachers"), KI-5*

The participants' accounts were supported by the responses of one of experienced teacher in Special Education in the school. The SpEd teacher (SPED) upheld the statements of the participants that most of them approached and asked her for some queries and doubts about their LSENs.

> *"Oo, tinuod. Si Ma'am (KI-2) nangutana sa akoa about sa bata unya kay nakahandle man ko ana sa una, gisharean nako siya'g mga ideas unsay dapat anang bataa." ("Yes. It's true. Ma'am (KI-2) asked me about the child and since I handled him before, I shared to her some ideas in what to do with that child"), SpEd Teacher*
> *"Si Ma'am (KI-4) nakig-istorya pud na siya about kang… pud iyang ginapangutana. Tabangan pud nako." ("Ma'am (KI-4) talked to me about…, I answered her based on my previous experience with the child."), SpEd teacher*

Others also sought help from nearby Sped schools just to ease the uncertainty of the strategies they claimed to be as the right way of implementing inclusive practices.

> "*Actually, naabot ko sa laing skwelahan para lang makakuha ug idea unsaon. Sonehow, nakatabang man pud." ("Actually, I went to other schools so I can gain ideas what should really be done. Somehow. it helped me in a way."), KI-2*
> *"Adto ko sa laing Sped schools ug nangutana sa mga teachers nga kaila nako." ("I went to other SpEd schools and I asked the teachers whom I knew"), KI-6*

Having experienced different challenges, non-trained teachers expressed their plea for the provision of adequate technical support through the conduct of meaningful and quality teacher trainings they deserve to receive. A participant suggested:

> *"Suggestion nako dapat naay jud trainings para sa amoang mga teachers nga nagadawat para makabalo pud mi kung tama ba o haum ba among ginabuhat." ("I suggest Sped teachers should conduct trainings to us receiving teachers so we would know if what we were doing was right and appropriate."), KI-2*

With the support given by special education teachers, key informants revealed they were able to overcome challenges in lack of knowledge, lack of resources and training.

As suggested by Santoli et. al. (2008), one way of providing more expertise for general education is through collaboration or co-teaching. As similarly revealed by key informants in this study, general educators desire for more time to consult and plan with other general educators and special educators. Undoubtedly, it is imperative for a successful inclusion that teacher collaboration occurs.

Support from Co-Teachers*.* Faced with different kinds of challenges in implementing inclusion, non-trained teachers also needed emotional support in order to ease the so-called burden they experienced. Participants told the researcher about the help they got from colleagues:

> *"Support pud sila. Kani pud kauban nako nga Kinder naa pud siya'y special child, share share ra pud mi unsay mga gipangbuhat. Makat-on ra pud sa mga experience." ("They supported me. Aside from them, I also had my partner in Kinder, she also has a special child so we shared ideas. We can learn from experience."), KI-1*

Co-teachers also supported Key informants 2 and 3 in terms of sharing their ideas and moral support. They unanimously shared:

> *"Supportive sa paghatag ug ideas." ("Supportive in sharing ideas."), KI-2 "Hatag silag moral support, mga advices unsay buhaton." ("Moral support from co-teachers, advices on what to do help me to overcome the challenges."), KI-3*
> *"Nagatabang sila. Supportive kaayo kay nagahatag sila ug feedback sa akoa." ("They were very helpful.They were so supportive in giving feedback."), KI-4*

Key informants 5 and 6 also revealed that there are co-teachers expressed sympathy over their experiences. They told:

"Nangumusta sila kung kamusta na ang bata. I also asked help from them." ("They asked how was the child I received from them. I also seek the help from my co-teachers."), KI-5
"Naluoy sila nako." ("They pity me."), KI-6

Through supportive channels, key informants were able to overcome the different challenges they had experienced. Key informants' narratives as mentioned above were supported by their co-teachers. The Sped teacher affirmed:

"Tabangan pud nato unsay kailangan kay ang uban sa ilaha nidawat ra jud pud. Luoy pud oi! Kung unsay kaya i-share or matabang, tabang jud ta kay kauban ra gud na!" ("We should help them on what they need because most of them just accepted them (LSENs). I felt pity with them! What I can do to share and help, I should do it because they are my colleagues.") Sped teacher

Support from their co-teachers were also provided. The co-teacher interviewed revealed:

"Kung ako pud naa sa ilang sitwasyon, di pud lalim noh. So, kung unsa man to akong natabang pareha kang Ma'am…, ginagmay nga pangutana nga giunsa na nimo, at least makahatag pud ug tambag gamay lang gud. Kay kung ako di man pud kabalo so tambag-tambag ra jud makaya nga support." ("If I were in their situation, it would also be difficult for me. So, what I can do to help, just like to Ma'am (KII-3) petty questions on how she did it, at least, it helped a little advice because I, myself, am unaware on what to do. So, I just shared pieces of advice.")

These confirmations of support system also emphasized how supportive co-teachers are with each other. Their little gestures of help were effective in alleviating the struggle that non-trained teachers felt in their endeavour to practice inclusive education in the best way they could. In the same way as expressed in the study of Santoli et. al (2008), regular educators practicing inclusion can be empowered through the support extended by co-teachers though collaborative teaching. It is inevitable that for general educators to support inclusion, teacher collaboration should be a prerequisite.

Reinforcement through Research. Innovative teachers as they are, participants also sought relevant information from the internet. For them, it helped information technology add a vast range of learning. Most of them divulged:

"Nagaresearch ko. Nakatabang ni madungagan akong kabalo sa special education pati inclusive education." ("I did researches. This helped me gained more knowledge about special education as well as inclusive education"), KI-1

"Nagsearch ko Ma'am sa internet para makabalo unsay buhaton." ("I researched Ma'am in the internet so I would know what to do."), KI-2 "Usahay nagasearch kog ideas sa internet sa mga activities nga gamiton.", ("Sometimes I seek ideas from the internet on the activities that I am going to use"), KI-5

Salend (2005) emphasized that effective inclusion requires reflective educators to examine their attitudes and beliefs. They are expected to differentiate their assessments, teaching methods and techniques, and classroom management practices to meet their learners' needs. Similar to the versions narrated by key informants, it showed how resourceful they were in seeking means to provide themselves with knowledge and awareness about inclusive education in order to meet the demands of their diverse learners.

Gathering Support from Parents. When asked about any support from parents, participants disclosed how supportive their parents were:

"Supportive sila. Kung naa ko'y ihangyo bahin sa ilang anak, ila man pud iprovide." ("In fairness, supportive pud. Ila ganing gipatutoran."), KI- 2
"They are supportive If I asked something, they will provide it." ("In fairness, parents were so supportive. They even get a tutor for him".),
KI-1
"Oo, supportive man sad." ("Yes, they were also supportive."), KI-3
"O. Pag naa kay assignment ginapabuhat, pag the following day naa jud answer. Pag naa pud activity sa school, ginapaapil pud nila as regular." ("Yes, they were supportive parents. If I gave assignments, the next day, the child has asnwers. If there are activities in school, they let him join just like the regular learners."), KI-5
"Supportive kaayo sila. Kung naa ko'y ihangyo para sa bata, ginahatag man pud nila dayon." ("They're so supportive. If I asked something for their child, they will provide it immediately"), KI-6

Gathering parental support revealed to be an important and essential factor for regular teachers in overcoming challenges encountered as revealed in their narratives. De Boer and Minnaert (2010) strongly stressed the important role played by parental attitudes in the process of implementing inclusive education. Positive attitudes of parents necessarily influenced the formation of their children's attitudes towards an environement that supports the inclusion of LSENs. Salend (2005), also accentuated that parent attitude plays a vital role in the process of decision-making regarding inclusion. Thus, parents should give positive support towards inclusion for its success.

Teachers Showing Extra Care and Attention to LSENs*.* Participants, though untrained in inclusive education, made use of their innate love for children and passion for teaching to provide a least-restrictive environment for LSENs.

'Ginapakita nako unsa ko kasweet sa iyaha, tungod ato, comfortable na siya sa akoa." ("I showed him how sweet I am to him, and with that, he felt comfortable and at ease with me"), KI-2
"Naa koy passion sa pagtudlo ug bata pareha nila nga maoy mas importante. Kung wala pa koy heart para nila, ang akong kalagot atong pagsugod, magpabilin gihapon sa akoa. Gisunod lang nako akong hart kay naluoy ko nila." ("I have passion for teaching learners like them which is more important. If I do not have the heart, my feeling of anger before would still be here in my heart.I just followed my heart because I pity them."), KI-6
"…ubanan nako siya pag wala pa iyang parents musundo. Extra attention jud ang ihatag sa iyaha" ("…accompanying him everytime his parents had not fetched him yet. So extra attention was really given to him."), KI-1

Passion and love for teaching children revealed to be one of the most effective tools that regular teachers use to buffer themselves from the many challenges they encounter. This only showed that teachers' commitment is unparalleled.

Teachers' Utilization of Personal Resources. Insufficient funding, resources, and lack of support are some of the chief threats to the implementation of inclusion. It is reflected in the scarcity of resources like scarcity learning materials, resources, and the absence of support. Significantly, insufficient funding can hamper ongoing professional development that helps keep non-trained classroom teachers updated on the best practices of inclusion.

As resourceful teachers, key informants dealt with difficulties at their own level to ensure the effectiveness of their lessons. Left with no choice, key informants use their personal money to suffice the lack of materials and resources. Two of the participants revealed:

"Personal expenses jud nako. Usahay ang gamit sa ubang bata, magkuha ko i share sa iyaha." ("It's my personal expenses. Sometimes I asked form the things of his classmates and shared with him"), KI-6 "Gigamit nako akong sariling kwarta. Kailangan jud mangita ug laing paagi." ("I use my own money. There's really need to seek alternative. It takes personal willingness."), KI-2

Informants' accounts clearly manifested the resourcefulness of teachers in many forms. As Salend (2005) emphasized in his effective inclusion principle, educators need to reflect and to examine their attitudes and beliefs. To address the diverse needs for a successful inclusion, teachers maximized every means they can possibly do. As revealed in the accounts of informants, they were being flexible and resourceful which is driven by their positive outlook towards LSENs.

Success Stories

One of the principles discussed by Salend (2005) for inclusion to become successfully implemented is reflective practices and differentiated instruction. Effective inclusion demands educators who reflect and examine their attitudes. Furthermore, to have effective inclusive educators are expected to differentiate their assessment, the teaching methods and techniques they employ, and the classroom management they practice in order to meet each individual learner's needs and strengths, may they be regular or with special needs. To lead the classroom, a flexible, knowledgeable, thoughtful teacher must modify her/his teaching instructions and utilize her/his resources wisely to meet all learners' diverse needs and abilities.

Despite their lack of proper training, funding, and support, most participants in this study claimed to have achieved successful implementation of inclusion. They were generally fulfilled and satisfied in performing their duties and responsibilities as inclusive education teachers and most especially, helping the LSENs develop themselves in different aspects and phases. Success in inclusion was evident in the following factors: improvement in the learners' behavior and academic performance; achieving social maturity; satisfaction; positive impact and appeal for teacher training.

Improvement in the LSENs' Behavior and Performance. Though they lack inclusive education training, informants claimed to have witnessed the improvement in their LSENs. The responses of participants noted:

> *"Ang performances niya sa paperworks kay mas nitriple iyang kahawd.", ("His performance in paperwork, his competence tripled."), KI-1*
> *"Naa puy improvement somehow. Kay dati sa English ug Filipino di siya kabalo jud. Niarang –arang siya sa Filipino. Naa siya'y development. Pero about sa kwarta, hawd siya especially magsukli sa tindahan. Kabalo na siya sa Math. Feeling nako, arang-arang siya sa Math." ("There is improvement somehow. Before in English and Filipino, he has really no knowledge at all. He improved in Filipino.He developed a lot. But in terms of money, he is very good in changing money in the store.He is now good in Math. I felt he improved in Math."), KI-4*
> *Nahawd siya sa Math. Kay higher level na ang grade one kumpara sa iyang level katong sa ipon pa siya sa SpEd class. Unya nakakuha man siya. Makacount na siya, makadd ug two-digit numbers with regroupings, makasubtract." ("He became good in Math. Because grade one is higher level compared to his performance when he was in the SpEd class. And he can catch up. He can count, add two-digit numbers with regroupings.*
> *He can subtract."), KI-5*
> *"Karon makasulat na siya." ("He can write now"), KI-6*

Despite the lack of training, the accounts revealed by regular teachers positively showed the success of regular teachers in their own contextualized implementation of inclusion. As Dakar and Senegal (2000) stressed, inclusive educators must ensure that children's diverse needs must be addressed equally.

By applying such principles,

regular teachers were able to meet favorable results as manifested in the improvement of their LSENs. Indeed, including LSENs with regular peers was revealed to be effective in helping them improve and develop in several aspects.

Achieving social maturity. Key informants also shared how their LSENs improve in dealing and socializing with regular peers including their relationship with their teacher. They shared their stories from the time they improved up to the present.

> *"Strikto siya at first, karon kay open na kaayo siya pati sa akoa magsige ug panawag sa cellphone mag-share ug basig unsa." ("He was strict at firstt but now he was open to me. There are times he kept on calling me on my cellphone sharing something."), KI-1*
> *"Sa una nagatantrums siya. Pero karon love na siya sa iyang classmates. Nafeel nako nga naabot na siya sa iyang maturity stage." ("Before, he kept on having tantrums. But now, his classmates love him.*
> *I felt he had reached his maturity stage"), KI-2*
> *"Nagaparticipate na siya. Pati self-confidence niya, nadevelop na." ("He is participative now. Even his self-confidence was developed."), KI-6*

Clearly, LSENs mainstreamed in regular classes manifested growth in emotional aspects as evident in the accounts of regular teachers. Dash (2018) supported the idea of inclusion. With this, LSENs can learn and improve despite any disabilities they may have. This principle was also upheld by the regular teachers. Because of regular teachers' belief that LSENs can learn and armed with their passion and dedication to serve, LSENs were able to develop social maturity. Indeed, there is hope for LSENs contrary to what others seem to adversely prove.

Teachers' Satisfaction. Having seen the positive results of the hard work they have exerted in contextualizing the lessons, activities, and strategies to cater to the diverse needs of their mixed learners, the majority of the key informants expressed their feelings of satisfaction and happiness.

> *"I'm so grateful sa iyang improvement." ("I am so grateful with his improvement."), KI-1*
> A feeling of happiness also fillled Key informant 2. She expressed:
> *"Siyempre happy nga naay improvement. Makainspire pud nga naa diay mga lain laing klase sa mga bata nga naa diay mga ing ana nga murag wala lang regular pero naa jud diay mga ing ana nga bata." ("Happy that there is improvement in him. It was inspiring to know that there are cases of LSENs that we thought as regular but with special needs."), KI- 4*

Another positive regard was expressed by Key informant 5. She revealed her feelings of happiness:

"Makahappy makita nga naay improvement in a little way. Although sometimes taken for granted kay ang presumption, special rani. Walay ginaapas nga goal." ("I felt happy to see his improvement in a little way. Although sometimes he was taken for gratned because my presumption before was they are special. No need for goals to achieve."), KI-5

Fulfillment was also experienced by Key informant 6 as she briefly expressed:

"Happy ug fulfilled kaayo ko kay wala gud koy alam jud. Ako-ako ra jud tp akong gibuhat. Salamat kaayo kay positive." ("I am so happy and fulfilled because I really do not have enough knowledge. Everything I have done was based on my own initiative. I am so thankful that it came out positively"), KI-6

Teacher satisfaction is essentially one of the factors in a successful inclusion. Similar studies by Whitaker (2000), Brownell, Sindelar, Kieley, and Danielson (2010), and Berry and Gravelle (2013) emphasized that teacher satisfaction can have an impact on the quality of the LSENs receive. Teachers who were resourceful had a wider network of support from available sources reported greater levels of satisfaction.

Positive Impact to Regular Teachers. Many challenges were encountered by key informants as they exerted different means in overcoming challenges in implementing inclusive education. As they were asked how this considerable improvement in their LSENs created an impact to their attitude towards teaching LSENs in an inclusive setting. Key informant 1 shared how her experiences in teaching LSENs shared her outlook towards them:

"Sa sugod kay naglisod ko kay naa pakoy regular daghag bata, naay pay special, unsaon na lang nako basi magkagubot ang room kung naa siya kay wala paman ko kabalo sa iyang abilities. Pero sa middle na, nakita nako nga wala diay problema kay naa pud diay special nga bata nga harmless." ("At first, I have my regular, so many of tem, added with a special child, so what should I do because I thought that maybe this class will be in chaos if this child is with them because that was when I do not know his abilities. But in the middle of the school year, I have seen that there was no problem with special children that they are."), KI- 1

Key informant 3 also shared how inclusion changed her negative thinking towards handling LSENs.

"Ang akong mind kay medyo nakasabot na ang mga learners with special needs diay kay pwede diay makalearn despite sa ilang mga disability. Katong manageable lang pud. Depende ra jud sa case sa bata." ("My mind now better comprehends about learners with special needs that they can also learn despite their disdabilities. But those who are manageable. It really depends upon the child's case."), KI-3

Another key informant shared how inclusion inspired her to do better in her profession. She also became much eager to learn more strategies in order to better equip herself in teaching her LSENs as well as her regular learners. She positively explained:

> *"Mas nainspire pa ko nga magtudlo pa jud ug madungagan akong mga strategies para ang mga bata nga akong gihandle nga makalearn jud sila." ("I was more inspired to teach more and to learn more strategies so that the children that I can handle can learn better."), KI-4*

Key informant 6 also had a positive change of attitude towards inclusion. He even developed love and understanding towards Learners with Special Educational Needs (LSENs). She noted:

> *"Sa una nasuko ko sa parent nga igo ra gihatag ang bata sa akoa pero kadugay ang attitude nako sa iyaha, nalove na nako siya." ("Before, I felt angry with the parent who just left her child under my care but eventually, my treatment with the child changed. I learned to love him."), KI-6*

With the positive change of attitude towards LSENs, key informants revealed how inclusion created an impact, not only on their LSENs, but most importantly, on themselves as educators. The success of inclusion ranges far beyond what regular teachers expect. Key informants were also asked if they would encourage others who desire to practice inclusion even without training. Despite their remarkable success, the majority of them preferred to have attended teacher training to equip themselves in the appropriate implementation and practice of inclusion. She explained:

> *"Okay lang nakaexperience sila naa silay special nga bata pero dapat naa jud training. Naa jud background" ("Its' okay to experience handling special children but there should be training."), KI-1*

Similar impressions were also expressed by the key informant 2. She emphasized the importance of teacher training for a teacher to equip oneself with knowledge and understanding about inclusion. She emphasized her stand:

> *"Dapat naa jud training kay sa training, makakuha kag strategy, unsay set up paghandle ana nga bata. At least madungagan ang learning." ("There should be training because it is where we get strategies, the set- up to handle this learners.At least there is additional learning.") ,KI-2*

Moreover, Key informant 3 expressed the value of teacher orientation and awareness in order to fully understand LSENs as well as inclusion. She firmly and strongly defended her stand:

“Dili oi. Dili jud kay ang hunahuna sa teacher di man gud kasabot anang mga bataa kay wala man sila naorient pareha sa akoa sa una wala ko kabalo nga ing ana diay ng mga bataa. Mas nindot jud naay training tapos depende gihapon sa teacher kung willing siya kay iorient man na sa training kung ing ana sila.” (“Really not. The teacher cannot really understand this kind of learners becauseshe was not oriented just like me before I did not know about these children. It is better to have trainings but it still depends upon the willingness of the teacher because it is in training that they will be oriented about these learners”), KI-3

Key informant 4 also affirmed her perspective in handling inclusion even without proper training. She also gave suggestions for teachers in seeking means of equipping oneself. She suggested:

“Pero mas maayo jud nga naay training para mas makabalo pa siya sa mga klase sa bata. Kung wala may mahatag nga training, ang buhaton pwede mueskwela. So, mas maayo pud iopen sa principal nga dapat naay para ing ani nga training.” (“It is better to undergo trainings so one can learn about different types of learners. If there are no trainings, one can go schooling in graduate studies. it is also good to be open to the principal that there should be training for this matter”), KI-4

Furthermore, key informants 5 and 6 also reiterated the effectiveness of teacher training in handling a mixture of diverse learners in one classroom set-up. They unanimously shared:

“No. Kay at least unta man lang kung mudawat ka ug learners with special needs dapat kabalo ka mubalance unsaon sila paghandle sabay- sabay tanan.” (“No. At least, if a teacher accepts a learner in her class, she knows how to handle different groups of learners at the same time”),
KI-5
“…Pero iprefer nako mas nindot jud ug naay training para jud pud 100% kabalo ang maestra unsa iyang buhaton para dili pud hanaw.” (“…I preferred to have trainings so that 100 %, the teacher knows what to do with her diverse groups of learners.”), KI-6

In summarizing an extensive review of related studies, the same accounts of regular teachers expressed the need for ongoing training (Van Reusen et al., 2001; Santoli, Sachs, Romey, & McClurg, 2008). Furthermore, Bargerhuff and Wheatley’s study asserted the empowerment of regular school teachers in accommodating LSENs in order to promote successful inclusion. Therefore, it is imperative that the provision of concrete, functional, and ongoing teacher training in inclusive education must be given much priority by the schools. Moreover, for regular education teachers, implementation of inclusion can be best practiced if they are equipped with the skills and expertise to handle learners with diverse needs and severity.

Conclusions

Based on the results of the study, the study revealed that despite a lack of formal training, regular teachers were able to implement inclusive education. Regular teachers experienced different challenges in implementing inclusive education. Despite their lack of training, regular teachers could overcome the different challenges through their own coping mechanisms and had a hard time implementing inclusive education with its implementation at present, considering mainly the lack of training and lack of institutional and operational support. Despite a lack of training in inclusive education, regular teachers were still able to experience success, as apparent in the improvement of their LSENs. Despite the evident success, regular teachers still plea for the provision of teacher training in inclusive education, knowing that this could make them more equipped with knowledge about the proper implementation of inclusive education rather than their own contextualized way.

Recommendations

Based on the findings of the study, school administrators should design and conduct functional teacher training programs that promote positive attitudes and offer meaningful experiences for all teachers, untrained and newly-hired regular teachers including school administrators to enhance awareness and knowledge on inclusive education and special education in a broader sense. This move will give assurance to teachers that they will become adequately prepared for the task of educating all students within the regular education classroom. Parents of LSENs may also be invited for this purpose.

Provide the regular teachers with the appropriate and definitive teachers' guide and learners' materials that will cater to both the regular learners and LSENs purposely for the implementation of inclusive education. Instructional and manipulative materials should also be provided to cater to the diverse needs of regular learners and LSENs. Institutional and operational support in any form: physical, mental, emotional, and financial support should be provided by the department and the school administrators not only to Special Education teachers but also to the regular receiving teachers.

Physical support such as more spacious classrooms to cater to the large size of classes should be provided. Mental and emotional support such as stress management activities for teachers must also be provided. Allocating funds and financial support for instructional materials and manipulative materials must be given to teachers.

Schools must tap these regular teachers as resource persons to share their successful cases and best practices. Regular teachers should seek professional growth and advancement through active participation in seminars, training, and enrolling themselves in courses in special education as well as inclusive education so that they may be equipped with the skills to handle diverse learners since inclusion and "education for all" is inevitably the current trend in the school climate nowadays.

Moreover, continuing professional development is essential to maintaining the quality of education for all in our schools, public and private. The research findings in this study could assist the Education management personnel, planners, and policymakers in enhancing integration programs and augmenting orientation and staff development opportunities for non-trained teachers. More research on inclusive education curricula may be conducted to have more in-depth descriptions of the programs, especially for receiving teachers with a greater number of learners in a class.

Compliance with Ethical Standards

The researchers upheld the ethical principles by following ethical guidelines throughout this study. From the outset of the series of interviews, these guidelines ranged from undergoing approval processes before starting the research and conducting interviews, careful considerations were taken to ensure that the participants were kept completely anonymous in the research, and the interviews were held confidential to maintain the objectivity of the study and to keep the identities of the participants of this study completely anonymous thus maintaining their rights. Before data gathering commenced, the participants were given an informed consent letter to make them aware of their participation. Contents of the informed consent involved the rationale of the study, the activities conducted, and the general questions that were asked to obtain the information necessary to answer the study questions. The participants were informed that they would be asked a series of open-ended questions in one-on-one interviews, which were recorded. It was emphasized to the participants that their participation was highly voluntary, and they have the right to withdraw their consent or discontinue participation at any time without penalty or loss of benefits to which they are otherwise entitled. Likewise, they had the right to refuse to answer questions that they felt were stressful and that might embarrass them. They were also told that there would be minimal risks in participating in the study but that they could benefit more since they would be helping improve the programs for the teachers in the institution. Participation was also confidential since pseudonyms were assigned to them instead of their names to ensure privacy. In the consent, the researcher gave her contact details and email address so they could reach her if they had queries, hesitations, or concerns about the study. Finally, participants were asked to affix their signatures to signify their consent and voluntary participation in the study.

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PARENTS LIVED EXPERIENCES AS STUDY BUDDY OF LEARNERS IN THE NEW NORMAL

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ABSTRACT

This study thoroughly examined the Parents' Lived Experiences as Study Buddies for Learners in the New Normal during the 2021-2022 school year. The qualitative research design, employing formal interviews with 10 participating parents, revealed that parents play diverse roles, including supporter, teacher, provider, tutor, and guidance counselor in their children's formal education during the COVID-19 pandemic. Challenges encountered by parents encompassed difficulties in explaining lessons, time constraints, children's boredom, and temper management issues. The study concluded that parents' roles are influenced by parenting styles, their varied experiences stem from educational backgrounds and skills, realizations are shaped by temperament and readiness, and challenges arise due to a lack of proper orientation and training. Overall, the research highlights the complex dynamics involved in parents serving as study buddies in the evolving realm of education.

Keywords: *COVID-19 pandemic, parental skills, guiding time learning moments, study buddy, roles, formal education*

INTRODUCTION

In various regions across the globe, parents have assumed a pivotal role in steering their children's education amid the challenges posed by widespread school closures during the COVID-19 pandemic. A substantial shift towards technology-dependent learning has been observed, with urban schools globally conducting online classes, while areas with limited connectivity resort to traditional distance learning methods, educational television,

and printed materials distribution (TALIS, 2018). The digital divide, highlighted by UNICEF (2020), has accentuated the educational disparities between the affluent and underserved populations. As a result, a majority of parents worldwide, lacking access to high-quality digital infrastructure, grapple with significant obstacles in keeping their children connected to education systems.

As parents endeavor to facilitate their children's learning, the pandemic-induced lockdowns and social distancing measures have compelled many to work from home. In countries such as France, Germany, Italy, the UK, and the USA, Krentz, Kos, et.al (2020) reveal that 60% of parents have faced challenges in finding alternative solutions for schools and daycare centers. Despite these difficulties, parents deserve unequivocal support in their commitment to sustaining their children's learning during these trying times.

Ferris & Silburn, et.al (2019) stress the need for new adjustment strategies in education policies for all key stakeholders in the "new normal." Collaboration between teachers and parents emerges as crucial for the best interests of students, as evidenced by various studies indicating improved academic achievements, social skills, and emotional well- being resulting from such partnerships (Ofsted, 2011; TALIS, 2018; OECD, 2017). Parents, holding schools accountable for their child's learning, play a pivotal role as key stakeholders in education.

Lastly, Byron (2021) defines a "study buddy" as someone who engages in mutual support and collaborative learning during study times. In the current context, parents emerge as crucial study buddies for learners, forced into this role by the constraints of the new normal. The study conducted aims to shed light on the challenges faced by parents in this study buddy role and to provide insights for improvement. Its potential benefits extend to school administrators, teachers, learners, parents, researchers, and the broader educational community, serving as a foundation for material procurement, training, and further research endeavors in the evolving landscape of education.

This section critically examines theories and models pertinent to the involvement of parents as study buddies for learners, with a primary emphasis on Piaget's cognitive development theory and Vygotsky's sociocultural theory, as elucidated by Tekin (2011). Piaget's theory underscores children as active learners, constantly aligning their internal constructions with external realities through interactions with peers and family members (Piaget, 1981). Similarly, Vygotsky's sociocultural theory accentuates the influence of social and cultural factors on development, with family members, especially parents, playing a pivotal role in supporting learners (Rieber & Robinson, 2004). These theories lay a foundation for understanding the crucial role parents play in shaping their children's educational experiences.

In the practical application of these theories, various parent involvement models have been developed, with Epstein's (2001) and Hoover-Dempsey's (2007) models emerging as widely accepted and applied. Epstein's model encompasses parenting, communicating, and learning at home, aligning well with the current scenario where the

home has become the primary learning environment due to the pandemic (Epstein et al., 2002). Hoover-Dempsey's model delves into the motivations behind parental involvement, shaping factors, and mechanisms through which such involvement influences student outcomes, offering a comprehensive understanding of the multifaceted nature of parental engagement (Hoover-Dempsey & Sandler, 1997; Hoover-Dempsey et al., 2005).

Given the new normal circumstances where parents have assumed the role of study buddies, both Epstein's and Hoover-Dempsey's models prove invaluable in guiding and supporting parents in this educational realm. The ongoing study at Sinipsip Elementary School seeks to illuminate the role of parents in formal education, document their experiences as study buddies, and identify challenges encountered. Through this investigation, the study aims to contribute practical insights for enhancing parental involvement as study buddies in the evolving educational landscape shaped by the new normal.

Research Questions

The main objective of the study assessed the ability of parent's lived experiences as study buddy of learners in the new normal.

Specifically, the study answers the following questions:

1. What are the roles of parents in the formal education of their children?
2. What are the experiences of parents in guiding their child in his/her formal education?
3. What are the learning moments of parents during their guiding time?
4. What are the difficulties or problems encountered by parents in guiding their child?

METHODOLOGY

Research Design

The research employed a qualitative research design, specifically utilizing the phenomenological method through semi-structured, in-depth interviews to explore the lived experiences of parents as study buddies in the new normal educational setting. Qualitative research, as defined by Bhandari (2020), involves the collection and analysis of non-numerical data, such as text, video, or audio, to comprehend concepts, opinions, or experiences. The phenomenological method, according to Leonard (2018), focuses on understanding how individual participants experience specific events and employs interviews, observation, and surveys as data gathering tools. In this study, the choice of a semi-structured, in-depth interview technique aligns with the phenomenological model, as described by Boyce and Neale (2006), allowing for an in-depth exploration of parents' perspectives and experiences as study buddies during the new normal, facilitating the collection of detailed information.

Research Locale and Participants

The research took place at Sinipsip Elementary School in Sinipsip, Amgaleyguey, Buguias, Benguet, throughout the academic year 2021-2022. The participants in this study were drawn from the parent community associated with Sinipsip Elementary School, with a total of 10 respondents included in the research.

Research Instrument

The primary instrument for data collection in the study was a meticulously crafted interview guide comprising four distinct parts. This tool served as the means through which the targeted respondents, namely parents, provided responses. The interview guide encompassed inquiries delving into crucial aspects such as the role of parents in the formal education of their children, the experiences of parents in guiding their children through the formal education process, insights into learning moments during these guidance sessions, and an exploration of the challenges or problems faced by parents in their role as guides during their children's educational journey.

Data Collection Procedure

Approval to conduct the study was obtained from the Dean of the Graduate School at Baguio Central University. Before proceeding with the formal interviews, the researcher sought permission from both the Schools Division Superintendent of the Division of Benguet and the school head teacher at Sinipsip Elementary School, where the study was carried out. Following the granting of approval, the researcher personally conducted the formal interviews, individually interviewing each respondent. Subsequently, the collected data from the formal interviews were analyzed and interpreted by the researcher.

Data Analysis

The primary aim of this qualitative study was to explore the lived experiences of parents serving as study buddies for learners. The objective was to gain a comprehensive understanding of these experiences and the roles parents undertake in this capacity. The study employed a one-on-one semi-structured interview approach guided by specific questions to collect data directly from the participants. The gathered responses from the respondents were subsequently compiled, analyzed, and interpreted to derive insights into the nuanced aspects of parents' lived experiences as study buddies for learners.

Compliance with Ethical Standards

The researcher demonstrated utmost professionalism and adherence to ethical standards throughout the study, ensuring courtesy and respect in all interactions. Before commencing the research, necessary permissions were secured from relevant authorities, indicating a commitment to following protocol. Clear communication with respondents was prioritized, with comprehensive information provided about the study's

purpose and their rights. Confidentiality measures were implemented to safeguard participants' responses, and explicit permission was obtained for the use of their data. Throughout the analysis and interpretation process, the researcher maintained objectivity and impartiality, ensuring that findings accurately reflected participants' lived experiences while upholding the universal essence of the subject matter under discussion.

RESULTS

Role of Parents in the Formal Education of their Children

The responses gathered from interviews with parents reveal five main roles that parents play in the formal education of their children: supporter, teacher, tutor, provider, and guidance counselor. The role of a supporter is emphasized, with several parents expressing their commitment to guiding and actively participating in their children's educational activities. The study notes that, particularly during the COVID-19 pandemic, parents have assumed a more supportive role, aligning with the findings of Aina & Azubuike (2020), who highlight the increasing support-oriented role of parents in their children's assignments and home projects. Additionally, the role of a teacher is evident, as parents acknowledge their responsibilities in encouraging and assisting with homework, embodying the crucial role of parents in fostering a positive learning environment. Furthermore, parents take on roles as tutors or facilitators, providing additional educational support. As providers, parents ensure the execution of their children's right to education by meeting their needs. Finally, some parents see themselves as guidance counselors, contributing to the discipline and overall guidance of their children. These roles align with the findings of Ceka & Murati (2016) and Bray (2016), emphasizing the multifaceted contributions of parents in shaping a healthy and successful educational experience for their children.

The Experiences in guiding their Children in their Formal Education

Parents shared their diverse experiences in guiding their children through formal education during the new normal, revealing common challenges and reflections. Many parents, such as A, B, D, and E, expressed difficulties in explaining lessons and emphasized the need for patience in guiding their children's studies. Parent F highlighted the challenge of conveying topics when a child is unresponsive, but also noted the excitement that comes when a child is eager to learn. Parent I faced challenges when her child lacked understanding in certain subjects, indicating the struggle of explaining unfamiliar topics. Parent J shared a more intense experience, admitting to moments of anger and the use of regrettable language, reflecting the heightened stress and emotional toll of the situation. These difficulties align with the findings of Ali et al. (2020), who noted concerns among parents about the abrupt shift to online classes and the challenges it presented, including a lack of discipline and teacher preparedness. Parent C provided a different perspective, emphasizing the importance of parental skills and emotional support in guiding a child's development, highlighting the multifaceted nature of parental involvement. Additionally, Parent H underscored the influence of teachers, as children

tended to adhere to their instructions even when parents offered alternative teaching methods. This resonates with the broader issue of teacher training and the impact it can have on the effectiveness of distance learning, as mentioned by Ali et al. (2020). Overall, these diverse experiences underscore the complex and evolving nature of parental roles in supporting their children's education during the new normal.

Learning Moments during the Guiding Time

Parents shared valuable insights into their learning moments during the guiding time, offering a nuanced understanding of the challenges and personal growth they experienced. The recurring theme of patience emerged, with several parents, such as A, B, C, E, H, and I, highlighting the importance of being patient while guiding their children through their studies. This aligns with educational literature, as emphasized by Prakash (2020), recognizing that teaching is a multifaceted role that demands patience. Parent B particularly acknowledged the complexity of being a teacher, stressing the need for heightened patience and the avoidance of immediate anger. Parent C provided a comprehensive perspective, emphasizing the necessity of patience, thoughtful attention, cooperation, and a deep understanding of the child's needs and struggles with disciplinary issues. Parent E's reflections on learning from mistakes and failures underscored the importance of resilience in the face of setbacks. Parent F's acknowledgment of the time- intensive nature of teaching, including reading and searching for additional examples, reinforces the dedication required for effective guidance. Parent G demonstrated strategic planning, teaching her child before bedtime or early in the morning, and maintaining a focused teaching environment by keeping away her phone and turning off the TV. Parent J showcased creativity in learning to draw and illustrate, enhancing her teaching methods. These diverse learning moments collectively emphasize the multifaceted nature of parental involvement in guiding their children's education during the new normal, highlighting both the emotional and practical dimensions of this challenging role. The study's findings echo Silma's (2020) observations that parents, particularly those facing challenges like teaching children who cannot read, grapple with frustration and a sense of starting from scratch.

Difficulties or Problems Encountered in Guiding the Children

Parents candidly shared the myriad difficulties and challenges they encountered while guiding their children's education during the pandemic, shedding light on the complexities and emotional toll of this role. Parent A expressed facing a lack of time, unfamiliarity with subjects, and occasional conflicts with their children. This aligns with the acknowledgment by Silman (2020) that families with ample resources may navigate home learning more smoothly. Parent B grappled with the challenge of effectively explaining lessons to her child, unsure if comprehension was achieved. Parent C highlighted her child's tendency to become easily bored during lessons, necessitating creative approaches to maintain interest. Parent D echoed this sentiment, noting their child's propensity to lose interest during teaching sessions. Parent E enumerated multiple difficulties, including the inherent challenge of teaching one's child, a lack of learning and understanding, and time constraints. These challenges align with Lyness's (2020) observations that some children

resist their parents as teachers, impacting the learning experience. Overall, the study's findings underscore the substantial barriers parents face in assuming the role of educators, ranging from unfamiliarity with subjects to emotional struggles, emphasizing the need for comprehensive support systems in the evolving landscape of home-based learning. The challenges resonate with Smith's (2019) acknowledgment that parents may lack confidence due to potential gaps in their own education and unfamiliarity with the current curriculum.

Conclusions

The study's findings lead to several key conclusions regarding parents' roles, experiences, realizations, and challenges in guiding their children's formal education during the pandemic. Firstly, the parents' roles were found to be intricately linked to their parenting styles, shaping how they navigated the complexities of assuming the role of educators. Secondly, a diverse array of experiences among parents emerged during the process of guiding their children, influenced significantly by their individual educational backgrounds and skills. These variations underscore the importance of recognizing and catering to the unique needs and capabilities of each parent. Thirdly, parents underwent realizations during their guiding time, with their temperament and readiness playing pivotal roles in shaping these insights. This highlights the emotional and psychological dimensions of the parent-child educational dynamic. Lastly, the study revealed that parents encountered numerous challenges in guiding their children, primarily rooted in a lack of proper orientation and training. Insufficient preparation and unfamiliarity with effective teaching strategies emerged as significant hurdles, emphasizing the need for comprehensive support systems and training initiatives to enhance parents' capabilities in fulfilling this educational role. Overall, these conclusions underscore the multifaceted nature of the parental involvement in the new normal of home-based learning and emphasize the necessity for targeted interventions to address the identified challenges.

Recommendations

The conclusions drawn from the study offer valuable insights into potential recommendations for parents and educational stakeholders. Firstly, it is strongly advised that parents continue to actively provide assistance and guidance to their children in all aspects of life, emphasizing the holistic nature of parental involvement. This includes not only academic support but also emotional and social guidance to foster well-rounded development. Secondly, parents are encouraged to devise effective plans to address their diverse experiences during the guiding time. Tailored strategies that consider individual backgrounds, skills, and challenges can contribute to a more supportive and effective learning environment at home. Thirdly, the recommendation suggests that parents allocate and invest more time in their children's education to enhance its success. This underscores the importance of quality time spent in educational activities and interactions, fostering a positive and enriching learning atmosphere. Lastly, a collaborative approach is advocated, urging schools, parents, and other stakeholders to continue working together. This collective effort aims to address the challenges identified in the study,

fostering a supportive and synergistic relationship between home and school environments. By promoting ongoing collaboration, a more effective and comprehensive response to the complexities of home-based learning can be achieved.

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PERCEIVED IMPACT OF COMMUNITY HEALTH NURSING PROGRAMS AND ACTIVITIES: A BASIS FOR PROGRAM ENHANCEMENT

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ABSTRACT

This study investigated the perceived impact of Community Health Nursing (CHN) programs and activities conducted by volunteer student nurses and faculty members from the Bachelor of Science in Nursing Program at Holy Name University in Barangay Catarman, Dauis. It aimed to elucidate participants' profiles, perceptions of CHN initiatives, potential variations based on demographic attributes, and suggested improvements based on findings. The research uncovered insightful patterns within respondents' demographic profiles, spanning age, gender, educational background, family income, family structure, and family headship. Furthermore, it scrutinized the perceived impacts of CHN endeavors, highlighting their effectiveness in disseminating health information, delivering primary health care services, and implementing essential nursing procedures. Despite some demographic-based discrepancies, the study identified overarching similarities in participants' perceptions of CHN initiatives. Conclusions underscored the significant positive influence of CHN programs on personal well-being and health status. Recommendations included tailored health education efforts, streamlined clinic management services, bolstered nursing procedures, diversified health promotion strategies, customized home visit services, consideration of socioeconomic factors, and sustained program evaluation. Implementing these recommendations promised to amplify the efficacy and reach of CHN initiatives, ultimately fostering improved health outcomes and elevated community well-being.

Keywords: *Community Health Nursing (CHN), Demographic Attributes, Health Information Dissemination, Perceived Impact, Primary Health Care Services, Program Evaluation*

INTRODUCTION

Community Health Nursing (CHN) holds significant importance in promoting the health and welfare of individuals, families, and communities. By incorporating nursing principles with public health strategies, CHN effectively addresses individual and population-based health needs (Mengistu & Misganaw, 2006). Through a steadfast commitment to prioritizing health promotion and disease prevention efforts, CHN empowers communities to adopt healthy practices and mitigate the onset of illnesses (Maglaya et al., 1987). Grounded in the community context, CHN emphasizes collaboration and engagement to tailor interventions in response to local health challenges and disparities (Castro, 2012). Furthermore, by emphasizing hands-on experiences, CHN education equips future nurses with the necessary skills to assess, plan, implement, and evaluate community health initiatives. Notably, CHN plays a pivotal role in the Philippines, addressing health needs and focusing on population-based care and partnerships (Brookes, K., et al. 2004). As per Clark's definition (2008), community health encompasses a fusion of nursing expertise and practice intertwined with the principles and methodologies of public health. It operates through a structured application of the nursing process and complementary approaches to foster health promotion and disease prevention within various population groups. This definition underscores the collaborative nature of community health endeavors, emphasizing the integration of diverse disciplines and methodologies to effectively address the multifaceted health needs of communities. Community health nurses collaborate with individuals, families, and groups to address specific health needs and maintain population health (Assessment Technologies Institute, 2010).

As community health nursing responds to the unique needs, health problems, cultural practices, and resources of the community, it serves as a profession capable of addressing diverse demands within a transitioning healthcare system. The evolving healthcare landscape requires community health nurses to possess varied capabilities to meet the complex healthcare demands of communities. Community health nursing promotes health and prevents diseases, disabilities, and premature death within populations. It provides opportunities for nurses to develop partnership skills with community stakeholders, enhancing communication and leadership capabilities while fostering creativity in problem-solving. As emphasized by the American Nursing Association (ANA), community health nursing emphasizes promoting and protecting the health of populations alongside promoting self-care among individuals and families (Matthews, J. 2012).

In this evolving landscape, community health nurses continue to care for individuals and families, particularly those at high risk or with communicable diseases. Community health nursing involves identifying high-risk groups within communities and developing policies and interventions to ensure accessible services for all population

groups. This study aimed to investigate the perceived impact of CHN programs and activities to provide valuable insights to strengthen these initiatives to benefit communities. By doing so, it sought to pave the way for evidence-based strategies that could enhance their effectiveness and ultimately contribute to improved community health outcomes.

Research Questions

This study aimed to determine the perceived impact of Community Health Nursing programs and activities conducted by the volunteer student-nurses and the faculty of the Bachelor of Science in Nursing Program of Holy Name University in Barangay Catarman, Dauis.

Specifically, the study aimed to answer the following questions:

1. What is the participants' profile in terms of:
   1.1 age;
   1.2 gender;
   1.3 educational background;
   1.4 family income;
   1.5 family structure; and
   1.6 family head?
2. What are the participants' perceived impact of CHN programs and activities?
3. Is there a significant difference in the participants' perceived impact on the CHN programs and activities when grouped according to their demographic profile?
4. What enhancement program can be proposed based on the findings of the study?

METHODOLOGY

This section of the study presented the research design, research environment, participants, instruments, and procedures that were used to determine the perceived impact of the different community health nursing programs and activities implemented in Catarman, Dauis, Bohol by the Holy Name University nursing students.

Research Design

This study utilized a descriptive survey method and a self-designed questionnaire as the principal tool for data collection. Employing a descriptive research design, the study aimed to portray the characteristics of a particular situation as observed at the time of the investigation and to delve into the underlying causes of specific phenomena. Central to this study was exploring the perceived impact of Community Health Nursing (CHN) programs and activities. The respondents were selected based on their participation in the various CHN programs and activities. They received proper briefing and instructions before directly answering the questions posed by the researchers.

Research Environment

This study was conducted in Dauis, Bohol, particularly in Barangay Catarman. Dauis is one of the two towns on Panglao island, just three kilometers from the City of Tagbilaran. It is one of the oldest municipalities of Bohol, located in the southwestern part of the province, with a land area of 4,524.28 hectares and a population of 36,525. Its topography is rocky but generally flat, with mountain ranges in the southeastern part. Dauis comprises twelve barangays, with Catarman being one of them.Barangay Catarman is positioned two kilometers from Poblacion, Dauis, with an estimated population of 4,152 residents. This area served as the location for the Community Health Nursing practice of nursing students from Holy Name University, College of Nursing, from 2003 to 2006. While some barangays have developed modern urban structures, others have retained a rural character, especially those in outlying areas.

Research Participants

The target respondents of this study were the residents of Catarman selected through purposive sampling. Purposive sampling is a non-probability sampling technique wherein the researcher consciously selects the subjects, typically targeting a specific group of respondents who have participated in various CHN programs and activities.

Research Instrument

This study utilized a self-made questionnaire as its primary research instrument, consisting of two parts. The first part focused on the respondents' demographic profile, while the second part delved into the respondents' perceptions of the impact of the CHN programs and activities.To gather the necessary data, respondents were asked about the impact of the community health programs and activities conducted. The response options provided were as follows: 4 – Greatest impact; 3 – Great impact; 2 – Lesser impact; and 1 – No impact. To establish the range of categories for responses, the highest response of 4 was subtracted from the lowest response of 1, resulting in a difference of 3. This difference was then divided by 4, representing the standard number of classes. The quotient of 0.75 was utilized to determine the interval for each response. Based on this calculation, the range of categories and their corresponding qualitative descriptions were constructed and presented below.

Qualitative Description	Range of Categories
Greatest Impact	4.0 – 3.26
Great Impact	3.25 – 2.51
Less Impact	2.50 – 1.76
No Impact	1.75 – 1.0

Research Procedure

Gathering of data. Before conducting one-on-one interviews with the respondents, the researchers sent a letter to the Mayor of Dauis, Bohol, through the Barangay Captain of Catarman, requesting permission and approval to conduct the study. Upon receiving approval, the researchers commenced the survey. To ensure access to desired data and information, permission was also sought from the Barangay Captain of Catarman, Dauis, Bohol, facilitated through a formal letter. Once approved, the questionnaires were prepared for distribution. To facilitate understanding, the questionnaires were translated. After distribution, the completed questionnaires were collected immediately, and the gathered data were subjected to statistical analysis.
Data collection was also facilitated through interviews, allowing for ease and speed in gathering information. Respondents were given the freedom of choice and expression through the various items and responses in the research instrument, thereby limiting the researchers' control over respondents' perceptions. Upon completion of the interviews, the collected data underwent statistical treatment.

Treatment of Data. After the data was gathered, they were collated and tabulated. Thorough frequency counting was conducted to obtain a concise response for each question. The responses were summed up, and the equivalent percentage was derived by dividing the number of responses for each item by the total number of respondents.

The following formula was employed in the statistical treatment of the data:
Simple Percentage:

$$P = \frac{f}{N} \text{ x } 100$$

Where:

P = percentage
f = frequency
N = Number of cases

Weighted Mean

$$WM = \frac{\sum wx}{\sum w}$$

Where:

WM = weighted mean
w = the weight for each data point
x = the value of each data point

In determining the significant difference on the perceived impact of the CHN programs and activities based on the respondents' demographic profile, the Two Way ANOVA (Analysis of Variance) was used in applying the formula:

$$SS_{Total} = \sum X^2 - \frac{\left(\sum X\right)^2}{N}$$

$$SS_{Between} = \frac{\left(\sum X_1\right)^2}{n_1} + \frac{\left(\sum X_2\right)^2}{n_2} + \ldots + \frac{\left(\sum X_{ac}\right)^2}{n_{ac}} - \frac{\left(\sum X\right)^2}{N}$$

$$SS_{Within} = SS_{Total} - SS_{Between}$$

$$SS_A = \sum \frac{\left(\sum \text{for each row}\right)^2}{n \text{ for each row}} - \frac{\left(\sum X\right)^2}{N}$$

$$SS_C = \sum \frac{\left(\sum \text{for each column}\right)^2}{n \text{ for each column}} - \frac{\left(\sum X\right)^2}{N}$$

$$SS_{AC} = SS_{Between} - SS_A - SS_C$$

For determining the perceived impact on the CHN programs and activities:

Range		Qualitative Description
3.26 – 4.00	-	Greatest Impact
2.51 – 3.25	-	Great Impact
1.76 – 2.50	-	Lesser Impact
1.0– 1.75	-	No Impact

RESULTS

The first part presents the demographic profile of the clients as stratified into age, gender, educational background, family income, type of family structure, and family head. The demographic profile of the clients is a vital factor in getting the client's perception of the impact of the different CHN programs and activities rendered by the student nurses and clinical instructors because perception differs in every individual. Part II discusses the perceived impact of Community Health Nursing programs and activities. The options for their responses are 4 – Greatest impact, 3 – Great impact, 2 –Lesser impact, and 1 – No impact.

Table 1
Respondents' Profile in terms of Age

Ages	Frequency	Percentage (%)
20-32	10	5.7
33-44	53	30.5
45-56	52	29.9
57-68	38	21.8
69-82	21	12.1
Total	174	100.0

Table 1 shows that most respondents are between 33 and 44 years of age, comprising 30.5 percent or 53 respondents. It was closely followed by age groups between 45 – 56 years old, with a percentage of 29. 9 percent. The lowest number of respondents is between 20 and 32 years old, with a corresponding percentage of 5.7 percent.

Table 2
Respondents' Profile in terms of Gender

Gender	Frequency	Percentage (%)
female	129	74.1
male	45	25.9
Total	174	100.0

Table 2 shows the gender profile of the respondents. The females comprise 74.1 percent of the total 129 respondents, while the male respondents comprise 25.9 percent, with a total number of 45 out of the total number of respondents, which is approximately 174.

Table 3
Respondents' Profile in terms of Educational Background

Educational Background	Frequency	Percentage (%)
College graduate	16	9.2
College level	9	5.2
High school graduate	33	19.0
High school level	51	29.3
Elementary graduate	50	28.7
Elementary level	15	8.6
Total	174	100.0

Table 3 shows an overview of the educational background of the respondents, revealing significant trends. Most respondents had attained a high school education, accounting for 51 individuals, constituting 29.3 percent of the sample. Following closely were respondents who had completed elementary education, 50 individuals and representing 28.7 percent. Conversely, the smallest proportion of respondents had reached the college level, comprising only 9 individuals, or 5.2 percent of the sample. Higher levels of education have been associated with improved health outcomes, as individuals with more education tend to have better health literacy and are more adept at managing their health concerns compared to those with lower educational attainment. Poor educational status often correlates with underutilizing healthcare services and increased avoidable risk factors.

Table 4
Respondents' Profile in terms of Family Income

Family Income	Frequency	Percentage (%)
Below 2,500	67	38.5
2,500-5,000	70	40.2
5,000-7,500	19	10.9
7,500-10,000	9	5.2
10,000 above	9	5.2
Total	174	100.0

Table 4 provides insights into the respondents' family income profiles. It reveals that a significant majority of respondents reported an income falling within the range of 2,500 to 5,000 pesos, comprising 40.2 percent of the sample, with a total of 70 individuals. Conversely, the smallest subset of respondents, totaling 9 individuals and representing 5.2 percent, belonged to two higher income brackets: 7,500 to 10,000 pesos and above 10,000 pesos.

Table 5
Respondents' Profile in terms of Family Structure

Family Structure	Frequency	Percent
Nuclear	173	99.4
Patriarchal	1	0.6
Total	174	100.0

Table 5 shows the respondents' profile in terms of family structure. It showed that most respondents had a nuclear family structure, with 173 out of the 174 respondents with a corresponding percentage of 99.4 percent. At the same time, only one respondent, with a percentage of 0.6 percent, had a patriarchal family structure.

Table 6
Respondents' Profile in terms of Family Head

Family Head	Frequency	Percent
Father	160	92.0
Mother	8	4.6
Child	2	1.1
Grandparents	4	2.3
Total	174	100.0

The respondents' profile in terms of family head is shown in Table 6. It showed that most respondents considered the father the dominant family head, with a total number of 160 respondents or a corresponding percentage of 92 percent. While the least number of respondents consider the child as their dominant family head, with a total number of 2 respondents with a corresponding percentage of 1.1 percent. Demographic information is essential to comprehending the population's characteristics of the population that expose them to specific health conditions.

Table 7
Perceived Impact of the Community Health Nursing Programs and Activities

Health information dissemination to clients on:	Weighted Mean	Qualitative Description
1 The benefits of proper nutrition and diet	3.22	Great Impact
2 Creation of Health Action Committee facilitated the community in the implementation of the CHN programs and activities.	3.21	Great Impact
3 Health teachings, I became informed of the relevance of disease prevention.	3.25	Great Impact
4 Taking medication in its full course is necessary to prevent the risk of resistance.	***3.03***	***Great Impact***

5.1 Basic sanitation information.	3.22	Great Impact
5.2 Dengue fever prevention	***3.31***	***Greatest Impact***
5.3 Common illnesses related to poor environmental sanitation.	3.24	Great Impact
6.1 Knowledge on the health teachings to the mothers and barangay health workers on Food Technology and Appropriate Technology (Approtech)	3.12	Great Impact
6.2 Health teachings to the mothers and barangay health workers on hygiene and sanitation.	3.23	Great Impact
Basic Health Care Services provision for the purpose of disease prevention, illness detection and health maintenance.		
1 Feeding Program of undernourished school-aged children	3.22	Great Impact
2 Case Finding, common health problems were identified and prompt treatment were employed.	***3.15***	***Great Impact***
3 Medical Mission conducted to the residents	3.18	Great Impact
4.1 Home visits led to the development of good relationships.	3.20	Great Impact
4.2 Home visits led to identification of health problems.	3.20	Great Impact
4.3 Home visits led to implementation of appropriate interventions.	3.21	Great Impact
5 Clinic management helped the residents acquire easy access to health care services without a cost.	***3.24***	***Great Impact***
6 Health teaching and feeding programs were undertaken during school nursing activities.	3.16	Great Impact
Basic Nursing Procedures implemented by the student nurses such as:		
1 Blood pressure taking and monitoring for susceptible clients.	3.18	Great Impact
2 In-depth interview on the family's over-all health status (family assessment) to identify vulnerable and high risk groups prone to illnesses and disabilities.	***3.16***	***Great Impact***
3 Physical Examination to detect any abnormalities.	3.17	Great Impact
4 Benedict's Test to determine presence of disease condition.	***3.20***	***Great Impact***
5 Wound care management to treat any types of impaired skin integrity.	***3.20***	***Great Impact***
Other programs and activities		
1 Outreach activities to deliver services to serve population groups.	3.18	Great Impact
2 Uses of common Herbal plants in treating common health problems as well as how to prepare them.	***3.15***	***Great Impact***
3 Herbal garden gives us easy access to herbal plants.	3.21	Great Impact
4 I enjoyed the sports activity initiated as it promotes physical well-being and socialization.	***3.22***	***Great Impact***
Overall	3.19	Great Impact

Table 7 shows the Perceived Impact of the Community Health Nursing Programs and Activities. It further revealed that the highest impact on the CHN programs and activities is on health information dissemination on Dengue fever prevention, with a weighted mean of 3.31 with a qualitative description of "greatest impact." The least impact

on health information dissemination is taking medication during its entire course. It is necessary to prevent the risk of resistance with a weighted mean of 3.03 and a qualitative description of "great impact."

On basic health care services provision for disease prevention, illness detection, and health maintenance, it showed that the highest perceived impact on these CHN programs and activities is on Clinic management, which helped the residents acquire easy access to health care services without a cost with a weighted mean of 3.24 with a corresponding qualitative description of "great impact." While the least impact on these categories is on case finding in
which common health problems were identified, and prompt treatment was employed with a weighted mean of 3.15 with a qualitative description of "great impact."

On the basic nursing procedures implemented by the student nurse, the highest impact as perceived by the respondents on the implemented CHN programs and activities is on Benedict's test to determine the presence of disease condition and on wound care management for treatment of any types of impaired skin integrity with a weighted mean of 3.20 and with a qualitative description of "great impact." While the least impact is on the in-depth interview on the family's overall health status, with a weighted mean of 3.16 with a qualitative description of "great impact."

Regarding other programs and activities, the highest perceived impact on these categories is on the sports activity that promotes physical well-being and socialization, with a weighted mean of 3.22 with a qualitative description of "great impact." The least impact on the respondents in these categories is the use of common herbal plants in treating common health problems and how to prepare them, with a weighted mean of 3.16 and a qualitative description of "great impact."

Public health programs operate with a philosophy of prevention and assistance to clients to achieve and maintain the highest level of health and wellness possible for the individual. Public Health Nurses (PHNs) develop, facilitate, implement, and modify health promotion activities based on clients' needs (Practice North, n.d.). This approach highlights the proactive stance of public health programs in addressing health concerns and promoting optimal health outcomes for individuals within communities.

Health education is pivotal in disease control, particularly combating diseases like Dengue. It is crucial for community members to comprehend the mechanisms of infection and to be aware of key behaviors or activities that need addressing to prevent transmission, reduce the severity of the disease, and prevent fatalities. Community involvement is indispensable in preventing and controlling Dengue, emphasizing the collaborative effort needed to combat this health threat.

Table 8
The Significant Difference on the Perceived Impact on the CHN Programs & Activities when Grouped according to Age

		Sum of Squares	df	Mean Square	F	Sig.	Decision
ImpactCHN Programs * Age	Between Groups (Combined)	1308.447	4	327.112	2.254	0.065	Accept H_o (Insignificant)
	Within Groups	24528.409	169	145.139			
	Total	25836.856	173				

The perceived impact on the CHN programs and activities, when grouped according to the respondents' age, is shown in Table 8. The ANOVA computations reveal no significant difference in the perceived impact on the CHN programs and activities when classified according to their ages, F (4,169) = 2.254, p = 0.065. The computed p-value was lower than the set alpha 0.05 under the two-tailed test. When grouped according to the respondents' ages, the null hypothesis of no significant difference in the perceived impact of the CHN programs and activities was therefore accepted. This means that the results showed 95 % confidence that no difference existed in the different brackets of ages of the respondents as to their perceived impact of CHN programs and activities.

Table 9
The Significant Difference on the Perceived Impact on the CHN Programs & Activities when Grouped according to Gender

		Sum of Squares	df	Mean Square	F	Sig.	Decision
ImpactCHN Programs * Gender	Between Groups (Combined)	82.994	2	41.497	0.276	0.760	Accept H_o (Insignificant)
	Within Groups	25753.863	171	150.607			
	Total	25836.856	173				

Table 9 shows the significant difference in the perceived impact of the CHN programs and activities when grouped according to gender. The respondents' perceived impact on the CHN programs and activities, when classified according to gender, reveals no significant difference, F (2,171) = 0.276, p = 0.760. For the respondents' gender, the male and female perceived impact on the CHN programs and activities does not vary or is the same. This similarity in the perceptions of males and females concerning the CHN programs and activities might be attributed to the fact that the programs and activities provided by the CHN apply to both males and females. With this result, the null hypothesis of no significant difference in the perceived impact on the CHN programs and activities, when grouped according to the respondents' gender, was therefore accepted.

Table 10
The Significant Difference on the Perceived Impact on the CHN Programs & Activities when Grouped according to Educational Background

		Sum of Squares	df	Mean Square	F	Sig.	Decision
ImpactCHN Programs * Educational Background	Between Groups (Combined)	1490.928	5	298.186	2.058	0.073	Accept H_o (Insignificant)
	Within Groups	24345.929	168	144.916			
	Total	25836.856	173				

Table 10 shows the significant difference in the perceived impact of the CHN programs & activities when grouped according to their educational background. The ANOVA calculations revealed no significant difference between the respondents' perceived impact on the CHN programs and activities when grouped according to their educational background, F (5,168) = 2.058, p = 0.073. This means respondents with different academic backgrounds have a similar perceived impact on CHN programs and activities.

Table 11
The Significant Difference on the Perceived Impact on the CHN Programs & Activities when Grouped according to Family Income

		Sum of Squares	df	Mean Square	F	Sig.	Decision
Impact CHN Programs * Income	Between Groups (Combined)	1497.151	4	374.288	2.599	0.038	Reject H_o (Significant)
	Within Groups	24339.705	169	144.022			
	Total	25836.856	173				

As reflected in Table 11, the ANOVA computations reveal a significant difference in the perceived impact on the CHN programs and activities when grouped according to their family income, F (4,169) = 2.599, p = 0.038. This means that the perceived impact of the respondents with a higher income compared to the lower ones is contradictory with each other. The obtained value indicates that the null hypothesis of no significant difference in the perceived impact on the CHN programs and activities classified according to their income was therefore rejected. This obviously indicates that the result displayed at least 95 % assurance that difference existed in those respondents with different incomes.

Table 12
The Significant Difference on the Perceived Impact on the CHN Programs & Activities when Grouped according to Family Structure

		Sum of Squares	df	Mean Square	F	Sig.	Decision
Impact CHN Programs * Family Structure	Between Groups (Combined)	401.157	1	401.157	2.713	0.101	Accept H_o (Insignificant)
	Within Groups	25435.699	172	147.882			
	Total	25836.856	173				

The perceived impact on the CHN programs and activities, when grouped according to the respondents' family structure, is shown in Table 12. The ANOVA computations reveal that no significant difference existed in the perceived impact on the CHN programs and activities when classified as to their family structure, F= 2.713, p = 0.101. The computed p-value was lower than the set alpha 0.05 under the two-tailed test. Therefore, when grouped according to the respondents' family structure, the null hypothesis of no significant difference in the perceived impact of the CHN programs and activities was accepted. This means that the results showed 95 % confidence that no difference existed in the family structure of the respondents as to their perceived impact of CHN programs and activities.

Table 13
The Significant Difference on the Perceived Impact on the CHN Programs & Activities when Grouped according to Family Head

		Sum of Squares	df	Mean Square	F	Sig.	Decision
ImpactCHN Programs * FamilyHead	Between Groups (Combined)	815.006	3	271.669	1.846	0.141	Accept H_o (Insignificant)
	Within Groups	25021.850	170	147.187			
	Total	25836.856	173				

Table 13 shows the significant difference in the perceived impact on the CHN programs and activities when grouped according to family head. When classified according to family head, the respondents' perceived impact on the CHN programs and activities reveals no significant difference, F = 1.846, p = 0.141. The perceived impact on the CHN programs and activities does not vary or is the same when they are grouped according to the family head. This similarity in the respondents' perceptions concerning the CHN programs and activities might be attributed to the fact that whatever the programs and activities provided by the CHN applies to whoever is the family head of the respondents. With this result, the null hypothesis of no significant difference in the perceived impact on the CHN programs and activities was therefore accepted when grouped according to the respondents' family head.

Findings

Based on the data being generated, the following major findings were arrived at:

1. Respondents' Demographic Profile

Age. Most of the respondents belong to the age group between 33 – 44 years of age, with a total of 53 respondents comprising 30.5 percent. The lowest number of respondents is between 20 – and 32 years old, with a corresponding percentage of 5.7 percent.

Gender. The females comprise 74.1 percent of the total 129 respondents, while the male respondents comprise 25.9 percent, with a total number of 45 out of the total number of respondents, which is approximately 174.

Educational Background. It showed that most respondents had attained the high school level, with a total number of 51 and a percentage of 29. 3 percent. The lowest number of respondents is those who reached the college level, with 9 respondents and a percentage of 5.2 percent.

Family Income. Most respondents have an income of 2,500 – 5,000 pesos, with a percentage of 40.2 percent and a total number of 70 respondents. On the other hand, the least number of respondents, comprising a total number of 9 respondents and with a corresponding percentage of 5.2 percent, belong to two family income brackets: are the income bracket of 7,500 – 10,000 pesos and those whose income is above 10,000 pesos.

Family Structure. Most of the respondents had a nuclear family structure, with a total of 173 respondents out of the total 174 respondents with a corresponding percentage of 99.4 percent. While only one respondent with a percentage of 0.6 percent had a patriarchal family structure.

Family Head. Most respondents considered the father as the dominant family head, with a total number of 160 respondents or a corresponding percentage of 92 percent. While the least number of respondents consider the child as their dominant family head, with a total number of 2 respondents with a corresponding percentage of 1.1 percent.

2. Perceived Impact of Community Health Nursing Programs and Activities

It showed that the highest impact of the CHN programs and activities is on health information dissemination on Dengue fever prevention, with a weighted mean of 3.31 with a qualitative description of "greatest impact." While the least impact on health information dissemination is on taking medication on its full course, which is necessary to prevent the risk of resistance with a weighted mean of 3.03 with a qualitative description of "great impact."

On basic health care services provision for disease prevention, illness detection, and health maintenance, it showed that the highest perceived impact on these CHN programs and activities is on Clinic management, which helped the residents acquire easy access to health care services without a cost with a weighted mean of 3.24 with a corresponding qualitative description of "great impact." While the least impact on these categories is on case finding in

which common health problems were identified, and prompt treatment was employed with a weighted mean of 3.15 with a qualitative description of "great impact".

On the basic nursing procedures implemented by the student nurse, the highest impact as perceived by the respondents on the implemented CHN programs and activities is on Benedict's test to determine the presence of disease condition and on wound care management for treatment of any types of impaired skin integrity with a weighted mean of 3.20 and with a qualitative description of "great impact." While the least impact is on the in-depth interview on the family's overall health status, with a weighted mean of 3.16 with a qualitative description of "great impact."

Regarding other programs and activities, the highest perceived impact on these categories is on sports activities that promote physical well-being and socialization, with a weighted mean of 3.22 and a qualitative description of "great impact." The least impact on the respondents in these categories is the use of common herbal plants in treating common health problems and how to prepare them, with a weighted mean of 3.16 and a qualitative description of "great impact." Public health programs adhere to a philosophy focused on prevention and client assistance, aiming to attain and sustain the utmost level of health and wellness achievable for everyone. Public Health Nurses (PHNs) are tasked with developing, facilitating, implementing, and adjusting health promotion activities according to clients' needs (Practice North, n.d.). This approach underscores the proactive stance of public health programs in addressing health concerns and promoting optimal health outcomes for individuals within communities.

Health education within Community Health Nursing (CHN) promotes health and prevents diseases by disseminating accurate information and educating individuals. Through community collaborative efforts, Public Health Nurses (PHNs) educate individuals about health issues, enhance community health and safety, and improve access to healthcare services. They provide reliable and practical information to empower individuals to protect their health and well-being. The primary goal is to present health information understandably, enabling individuals to take control of their health.

Moreover, health education is indispensable in controlling diseases such as Dengue, as it ensures that community members comprehend the mechanisms of infection and the critical behaviors or activities required to prevent transmission, lessen disease severity, and prevent fatalities. Community involvement is paramount in preventing and controlling Dengue, emphasizing the collaborative efforts needed to combat this health threat effectively.

3. On the significant differences on the perceived impact of the CHN programs and activities in terms of the respondents' demographic profile.

In terms of Age. It reveals that no significant difference existed in the perceived impact of the CHN programs and activities when classified according to their ages. This means that whatever the age bracket of the respondents is, their perceived impact on them is similar.

In terms of Gender. Male and female respondents' perceived impact on the CHN programs and activities does not vary or is the same. This similarity in the perceptions of males and females concerning the CHN programs and activities might be attributed to the

fact that the programs and activities provided by the CHN apply to both males and females. With this result, the null hypothesis of no significant difference in the perceived impact on the CHN programs and activities, when grouped according to the respondents' gender, was therefore accepted.

In terms of Educational Background. When grouped according to their educational background, no significant difference existed between the respondents' perceived impact on the CHN programs and activities. This means respondents with different educational backgrounds have a similar perceived impact on CHN programs and activities.

In terms of Family Income. Reveal a significant difference in the perceived impact of the CHN programs and activities when grouped according to their family income. This means that the perceived impact of the respondents with a higher income compared to the lower ones is contradictory.

In terms of Family Structure. Reveals no significant difference. The perceived impact on the CHN programs and activities does not vary or is the same when they are grouped according to family structure. This similarity in the respondents' perceptions with respect to the CHN programs and activities might be attributed to the fact that whatever programs and activities provided by the CHN are applicable to the family structure of the respondents.

In terms of Family Head. It reveals no significant difference. The perceived impact on the CHN programs and activities does not vary or is the same when grouped according to the family head. This similarity in the respondents' perceptions concerning the CHN programs and activities might be attributed to the fact that whatever the programs and activities provided by the CHN applies to whoever is the family head of the respondents.

Conclusions

Based on the findings of the study, it was concluded that the respondents' perceived impact on the different CHN programs and activities greatly impacted their personal well–being, and such CHN programs and activities have significantly improved their health status.

Recommendations

Pursuant to the conclusion based on the findings of this study, the following recommendations are proposed:

1. Targeted Health Education Initiatives

Given the significant impact observed in health information dissemination, particularly on Dengue fever prevention, it is recommended to continue and even expand targeted health education initiatives on disease prevention and health promotion. These efforts should focus on providing accurate and accessible information to the community members, thereby enhancing their awareness and understanding of health-related issues.

2. Enhanced Clinic Management Services

Since clinic management was perceived to have a great impact on providing easy access to healthcare services, efforts should be made to enhance and optimize clinic

management services. This could involve streamlining administrative processes, improving service delivery mechanisms, and ensuring the availability of essential healthcare resources to meet the needs of the community effectively.

3. Strengthened Basic Nursing Procedures

The observed impact of basic nursing procedures such as Benedicts' test and wound care management highlights the importance of strengthening basic nursing skills among healthcare providers. Continuous training and skill development programs should be organized to ensure that healthcare professionals are proficient in essential nursing procedures, thereby improving the quality of care delivered to the community.

4. Diversification of Health Promotion Activities

While sports activities were perceived to have a great impact on promoting physical well-being and socialization, there is a need to diversify health promotion activities to cater to the diverse needs and preferences of the community. Exploring innovative approaches such as community gardening, cooking classes focusing on nutritious meals, or mental health awareness campaigns could further engage and empower community members to prioritize their health and well-being.

5. Tailored Health Services during Home Visits

Home visits provided an opportunity to deliver additional health services such as vital sign monitoring, child examinations, and education on breastfeeding and family planning. It is recommended to continue incorporating these services into home visit programs, ensuring that community members receive comprehensive and tailored healthcare interventions in the comfort of their homes.

6. Consideration of Socioeconomic Factors

The significant difference observed in the perceived impact of CHN programs and activities based on family income underscores the importance of considering socioeconomic factors in healthcare planning and delivery. Efforts should be made to address disparities in access to healthcare services and health outcomes among different socioeconomic groups, ensuring that all members of the community have equitable access to quality healthcare.

7. Continued Monitoring and Evaluation

To sustain the positive impact of CHN programs and activities, it is essential to establish robust monitoring and evaluation mechanisms. Regular assessment of program effectiveness, community satisfaction, and health outcomes will provide valuable insights for ongoing program refinement and improvement, ultimately contributing to the long-term health and well-being of the community.

By implementing the recommendations, healthcare providers and policymakers can further strengthen the effectiveness and reach of CHN initiatives, ultimately contributing to improved health outcomes and quality of life for the community.

Compliance with Ethical Standards

All ethical criteria were considered when conducting this study. The research topics were not sensitive, nor did they put the participants and the institution at risk. Participation was always voluntary. They were invited to participate by explaining the objectives and giving informed consent for the study. After they had expressed their consent and affixed their signature or thumbprint, the questionnaire was explained to

them. The participants participated by either answering the interviewer or reading and writing their answers. They were informed of their right to withdraw at any moment without the need for an explanation. The researchers employed the appropriate measures during the interaction with the participants, in collecting data or responses, and during the analysis of the gathered data. The participants were assured of the confidentiality of their identity and answers; they were also assured that the answered questionnaires could be accessed only by the researchers or the concerned participants. The benefits of the study were also explained as described in the significance of the study. The research conformed with the Holy Name University Ethics Review Board (HNU-ERB) standards. Approval from the HNU-ERB was sought before the data collection. The researchers declared no potential conflicts of interest concerning the research, authorship, and publication of this article.

Recruitment

The participants' recruitment was done during a home visit. It was always emphasized that their participation was always voluntary. During the recruitment, the introduction of the researchers to the participants was made. Likewise, the following was performed during the recruitment: an explanation of the research purpose, why they were the chosen participants, the benefits of joining the study, the data that were expected from them, and an explanation of the questionnaire surveys, which were divided into two parts. The first part was their demographic profile, including age, gender, educational background, family income, family structure, and family head. The second part was the participants' perceived impact on the Community Health Nursing programs and activities. Participants were assured of the confidentiality of their identity, that all their responses were strictly confidential and would be used only according to the purpose of the study, that they could access the results of the study if they wanted to, and that they could withdraw their participation anytime and that their answer will not be considered in the findings of the study if they opted out.

The consent form was given to the participants for their signature upon their agreement to participate in the study. The researchers thoroughly assessed the participant's voluntariness and understanding. All other important details were written in the consent form, which was translated into Cebuano dialect.

After the participants had affirmed their participation in the study, the researchers handed the informed consent form to them for their signature. The parameters of the study were carefully explained to the participants prior to their signing. It was emphasized that the participants can exercise their right to object at any time. Then, after the participants had affixed their signature or thumbmark in the informed consent, the survey questionnaire was given to the participants, who were interviewed for their responses. The survey questionnaire can be answered within 10-15 minutes.

The participants' identities remain confidential throughout the study, and writing their names on the questionnaire is optional. Taking pictures of the questionnaire and answers, as well as the participants themselves, by any means is not allowed. Only the researchers have direct access to the survey results. After the participants answered the questionnaire, they were secured in an envelope and could be accessed only by the

researchers. The invitation to participate in the study was made during a home visit by the researchers. During the home visit, the researchers performed a visual inspection and asked about the participant's condition before recruitment. The researchers discerned not to proceed with the recruitment when the participants were not feeling well.

The researchers will momentarily stop the process when the participants become uncomfortable or tired. The participants were allowed to rest and resume only when willing. No monetary compensation was given to participants for their participation. They were informed that they could withdraw their participation in the study at any given time and for any reason. In such a case, their responses will not be included.

AN ENHANCEMENT PROGRAM TO IMPROVE COMMUNITY HEALTH NURSING PROGRAMS AND ACTIVTIES

I. Rationale

In response to the dynamic shifts within the healthcare landscape, particularly in community health, faculty researchers from Holy Name University present a comprehensive proposal to strengthen community health nursing initiatives. The nursing profession faces an ever-fluid set of local and global demands, necessitating a strategic approach to adapt and thrive within this evolving context.

Once solely focused on increasing its workforce, nursing now finds itself navigating a healthcare environment undergoing a profound transformation. The imperative drives this transformation to meet the ever-changing needs of society, particularly in the field of community health nursing.

The proposal acknowledges the imperative for nursing to transcend numerical expansion and position itself strategically within this changing healthcare paradigm. It recognizes that community health nursing plays a pivotal role in addressing the health needs of populations, promoting well-being, and preventing disease within communities.

The proposal addresses the multifaceted challenges facing community health nursing initiatives by aligning with this vision. Through targeted interventions, collaboration, and innovation, researchers aim to enhance community health nursing programs' effectiveness, reach, and impact.

A comprehensive plan is presented below that encompasses vital objectives, strategies, and program components. The proposal aims to empower nursing professionals, optimize healthcare delivery, and foster collaboration to drive positive change in community health outcomes. Through this proposal, faculty researchers from Holy Name University aspire to contribute to a healthcare system that is responsive, equitable, and resilient, ensuring the well-being of individuals and communities alike.

II. Objectives

- To enhance targeted health education initiatives on disease prevention and health promotion.
- To optimize clinic management services for improved access to healthcare.

- To strengthen basic nursing procedures among healthcare providers.
- To diversify health promotion activities to cater to diverse community needs.
- To provide tailored health services during home visits.
- To address socioeconomic disparities in healthcare access and outcomes.
- To establish robust monitoring and evaluation mechanisms for ongoing program refinement.

Program Components

Programs	OBJECTIVES	STRATEGIES	TIME FRAME	EXPECTED OUTCOMES
Targeted Health Education	- Enhance health education on disease prevention and health promotion.	- Develop culturally sensitive materials. - Conduct workshops and outreach programs.	Within 3 months	Increased community knowledge and awareness of key health topics.
Clinic Management Optimization	- Improve access to healthcare. - Streamline clinic operations. -Ensure availability of supplies and medications.	- Assess clinic infrastructure and service delivery processes. - Implement strategies to improve operations. - Ensure supply availability.	Within 6 months	Reduced waiting times, improved patient experience, and efficient clinic operations.
Basic Nursing Procedures	- Strengthen nursing skills - Provide training and skill development. - Establish mentorship programs.	- Organize training workshops and skill development programs. - Provide access to simulation labs. - Establish mentorship programs.	Within 6 months	Enhanced competence among healthcare providers and improved patient care outcomes.
Diversification of Promotion	- Cater to diverse community needs. - Develop innovative initiatives. - Engage community members as	- Collaborate with organizations and schools. -Partner with sports clubs and cultural groups. - Engage community members.	Within 12 months	Increased participation in health promotion activities, tailored to community needs.

	educators and advocates.			
Tailored Health Services	- Provide tailored health services during home visits. - Address social determinants of health. - Empower community health workers.	- Expand home visit programs. - Address social determinants of health. - Empower community health workers.	Within 6-9 months	Improved health outcomes among individuals and families, particularly those with limited access to healthcare facilities.
Socioeconomic Disparities	- Address healthcare disparities. - Implement interventions to tackle social determinants. - Advocate for policy changes.	- Conduct needs assessments. - Implement targeted interventions. - Advocate for policy changes.	3 months	Reduced healthcare disparities and improved access to healthcare services for underserved populations.
Monitoring and Evaluation	- Establish monitoring and evaluation mechanisms. - Assess program effectiveness and impact. - Solicit stakeholder feedback.	- Develop evaluation frameworks. - Collect and analyze data. - Solicit stakeholder feedback.	Within 3-6 months	Enhanced accountability, improved program effectiveness, and informed decision-making through data-driven insights.

By implementing the proposed Enhancement Program, the researchers aim to further strengthen Community Health Nursing programs and activities, thereby enhancing their capacity to promote health and well-being within the community. Through targeted interventions, collaborative partnerships, and ongoing monitoring and evaluation, the researchers aspire to create a more resilient, equitable, and sustainable healthcare system that empowers individuals and communities to thrive.

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PERCEPTIONS ON THE TEACHING OF READING SKILLS IN SENIOR HIGH: A COMPARATIVE STUDY AMONG STUDENTS AND TEACHERS IN METRO GENSAN

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ABSTRACT

This study compared the perceptions of both students and teachers regarding teachers' performance in teaching reading skills at the senior high level. Using a developed survey questionnaire from a preliminary study, the research surveyed a sample of 205 HUMSS 11 students and 14 English faculty teachers from three prominent schools in Metro Gensan, namely General Santos City National Secondary School of Arts and Trades (GSNSAT), Irineo L. Santiago National High School of Metro Dadiangas, and North National High School. Through a comprehensive analysis of survey data and statistical tests using weighted mean and Mann-Whitney U test, several key findings have emerged. Both subgroups revealed high perceptions of teachers' performance in teaching reading skills, with the teachers at 4.29 and the students at 3.87. While the majority of indicators reflect positive perceptions, areas for improvement have been identified, particularly concerning the identification and support of struggling students and the development of a stronger reading culture within schools. Notably, students and teachers share aligned perceptions regarding these areas, emphasizing the need for enhanced intervention programs and a supportive learning environment conducive to reading engagement. The rejection of the null hypothesis further underscores the necessity for educators to better understand students' perspectives and tailor instructional strategies accordingly. Moving forward, recommendations include investing in continuous professional development for teachers, strengthening intervention programs, fostering a reading-positive environment, facilitating open communication and collaboration among stakeholders, and employing data-driven decision-making processes.

Keywords: *Teaching Reading Skills, Senior High School, HUMSS 11, Student Perception, Teacher Perception, Reading Instruction*

INTRODUCTION

Reading, considered a fundamental skill involving the decoding of symbols and comprehension of their meaning, is typically expected to be honed during a child's early education (Tadese, 2017). The Philippines, recognized globally as one of the largest English-speaking nations, has historically prided itself on the widespread fluency in English among its populace. However, recent years have witnessed a concerning decline in English proficiency, evident in various international and local assessments conducted on Filipino students from high school to college (Cabigon, 2015).

According to Education First (2019), the Philippines experienced a notable drop in its English proficiency index, falling from 14th to 20th place. Similarly, research by Hopkins International highlighted the inferior English proficiency levels of Philippine college graduates compared to high school students in Thailand and even taxi drivers in Dubai (Oducado, 2020). Moreover, recent data from the Programme for International Student Assessment ranked the Philippines last in reading comprehension among 79 countries (Mocon-Ciriaco, 2019). Despite assumptions that senior high or college students no longer require reading-focused curricula or programs, examination results and inquiries suggest otherwise.

In response to these challenges, the Department of Education has implemented various national and local reading initiatives, such as the Every Child a Reader Program and English for Academic and Professional Purposes (Agao, 2016; Diaz-Sabado, 2021)
. Nevertheless, while several studies have scrutinized reading programs and practices in the Philippines, few have delved deeply into how reading skills are taught and addressed at the senior high level. Moreover, there is a scarcity of research employing valid and reliable surveys to gather quantitative data on teaching reading skills in senior high schools.

Thus, this study aimed to investigate the current landscape of reading development in senior high schools, focusing on the teacher level of performance in teaching reading skills to senior high learners. The findings of this investigation could provide valuable insights into the importance of ongoing emphasis on reading development in senior high schools and the necessity for remedial reading interventions for senior high students.

Research Questions

This research aimed to compare the. teachers' level of performance in teaching reading skills as perceived between the teachers and students of three prominent schools in Metro Gensan Area.

Specifically, this research aims to answer the following questions:

1. What is the teachers' level of performance in teaching reading skills as perceived by the Teachers themselves?
2. What is the teachers' level of performance in teaching reading skills as perceived by the Students?
3. Is there a significant difference in the perception of teachers' performance level in teaching reading skills between the teachers and students?

METHODOLOGY

Research Design

The research design employed in this study is a causal-comparative survey design, as defined by Creswell and Creswell (2018). This design falls within the realm of nonexperimental quantitative research, which aims to compare two or more groups based on a predetermined cause or predictor variable that has already occurred. In this specific study, the researcher examined the ratings provided by both teachers and students regarding the teachers' performance in teaching reading skills. By comparing these perceptions, the study sought to determine whether differences in perception would lead to variations in the ratings of teaching performance.

Respondents

The participants in this study consisted of HUMSS Grade 11 students and senior high English faculty members from three prominent schools in the Metro Area of General Santos City, namely: General Santos City National Secondary School of Arts and Trades (GSNSAT), Irineo L. Santiago National High School of Metro Dadiangas, and North National High School. The researcher employed a systematic approach to identify the respondents, beginning with the calculation of the sample size. Using the Checkmarket sample size calculator with a 5% margin of error and 95% confidence level, the sample size was determined to be 205 from a population of 438 HUMSS 11 students across the three schools. Subsequently, the sample was stratified among the three schools, and convenience sampling was utilized to select the final student respondents. For the teacher respondents, total population sampling was employed, encompassing all 14 active teachers from the three schools. This rigorous sampling methodology ensured a representative and comprehensive selection of participants, thereby enhancing the validity and reliability of the study's findings.

Table 1

Respondents of the study

	Students		Teachers	
	N	n	N	n
Irineo National High School	*154*	*72*	*6*	*6*
Lagao National High School	*194*	*91*	*6*	*6*
North National High School	*90*	*42*	*2*	*2*
Total	*438*	*205*	*14*	*14*

Instruments

The survey questionnaire used in this study was developed from a preliminary qualitative investigation. Originally comprising 40 items rated on a 5-point Likert scale, the questionnaire aimed to assess various aspects related to challenges encountered, strategies and approaches practiced, and interventions implemented in teaching reading skills at the senior high school level. However, for the purposes of this particular study, only Part Two and Three of the questionnaire were utilized, as they specifically targeted teachers' performance in teaching reading skills. Prior to implementation, the questionnaire underwent rigorous validation by four expert validators, including a psychologist, to ensure its content validity. Furthermore, its reliability was assessed using Cronbach's Alpha coefficient.

Table 2

Cronbach's Alpha Reliability Result

Teacher Level of Performance in Teaching Reading Skills Survey	**N of Items**	**CronBach's Alpha**	**Interpretation**
Practice of Strategies and Approaches	20	.941	Highly Reliable
Implementation of intervention and Remediation			

Data Gathering Procedures

Upon the board's approval, the researcher composed a request letter addressed to the School Division Superintendent of General Santos City and the school heads of the three chosen schools, seeking permission to gather data within their institutions. Upon receiving approval, the researcher proceeded to collect data to calculate the required number of respondents. Following the development and validation of the research instrument, quantitative data were collected from the same schools. Informed consent forms were sent along with the survey questionnaire to ensure compliance with ethical procedures. Subsequently, the collected data were retrieved and analyzed using descriptive statistics.

Statistical Analysis

Weighted Mean. These descriptive statistics was used to analyze each respondent's score in the developed survey on teachers' performance level in teaching Reading in Senior High. This data was used in conducting the significant difference analysis.

Mann-Whitney U test. This non-parametric statistical tool was used to identify the significant difference between two independent and unequal groups in terms of their distributions. In this case those independent groups are the teachers and the students as they were compared to the perceived rating of teacher performance level in Teaching Reading skills in the senior high.

RESULTS

A. Teacher's Level of Performance in Teaching Reading Skills As Perceived by the Teachers

Table 3 below presents the teacher's level of performance in teaching reading skills as perceived by the teachers. The data indicates an overall weighted mean of 4.29, which indicates a high level of Performance. This suggests that the teachers view their teaching performance positively in terms of enhancing students' reading skills.

Table 3

Teacher's Level of Performance in teaching reading skills as perceived by the teachers (n=14)

	Statements	MEAN	SD	Description
1.	Teachers aim to enhance students' comprehension skills by instructing them on how to summarize texts and identify the main idea.	4.64	0.50	Very High
2.	Teachers provide instruction on creating graphic organizers, outlining techniques, and note-taking strategies to facilitate better understanding of texts and lessons.	4.64	0.50	Very High
3.	Teachers offer guidance through the use of guide questions or by encouraging students to ask questions about the lesson or reading materials, promoting deeper processing of their meaning.	4.5	0.65	Very High
4.	Teachers introduce difficult words in texts prior to reading, ensuring students are familiar with them to facilitate comprehension.	4.36	0.74	High
5.	Teachers consistently remind students to use dictionaries to expand their vocabulary and learn new words.	4.29	0.83	High
6.	Teachers use creative and engaging activities to help students learn new words effectively.	4.5	0.65	Very High
7.	Teachers actively correct students when they mispronounce words, assisting them in improving their pronunciation skills.	4.43	0.51	High
8.	Teachers in subjects unrelated to English also contribute to the improvement of students' reading skills.	4.36	0.63	High
9.	Teachers in other subjects help students with reading difficulties by providing assistive activities.	4.36	0.63	High
10.	Teachers implement interactive reading development strategies like Peer Tutoring and Guided Collaborative Reading.	4	0.96	High

11.	Teachers use many activities for a single lesson to encourage collaboration and help develop their reading skills.	4.5	0.52	Very High
12.	Teachers cater to the different interests of students by offering a variety of activities to enhance their reading skills.	4.43	0.51	High
13.	Teachers consider the current skills of the students in giving reading materials and reading activities.	4.36	0.50	High
14.	Teachers vary strategies depending on students' strand and grade level.	4.5	0.52	Very High
15.	Teachers utilize books, technology, and engaging materials to create a stimulating learning environment for improving reading skills.	4.36	0.50	High
16.	The school/curriculum has lessons in both English and non-English subjects that are beneficial in the development of their reading skills.	4.36	0.74	High
17.	The school implements a program where struggling senior high readers are identified and are given assistance to improve their reading skills.	3.57	1.02	High
18.	The school fosters a reading culture that encourages students to read by designating reading time, providing ample reading materials, creating reading corners, and others.	3.71	1.14	High
19.	Teachers often take the initiative to call upon struggling senior high readers during free time to give additional support in improving their reading skills.	3.86	1.03	High
20.	Teachers prepare reading materials or reading kits specifically designed for senior high students who struggle with reading.	4.14	0.95	High
	OVERALL	**4.29**	0.41	High

Legend: Very High 4.50-5.00 High 3.50-4.49 Moderate 2.50-3.49 Low 1.50-2.49 Very Low1.00-1.49

B. Teacher's Level of Performance in Teaching Reading Skills As Perceived by the Students

Table 4 below presents the results in the Teacher's Level of Performance in teaching reading skills as perceived by the students. Analyzing the results based on the mean and standard deviation, it can be observed that the overall perception of the teaching performance of reading teachers as perceived by the students fell on High with an overall mean of 3.87.

Table 4

Teacher's Level of Performance in teaching reading skills as perceived by the students (n=205)

	Statements	MEAN	SD	Description
1.	Teachers aim to enhance students' comprehension skills by instructing them on how to summarize texts and identify the main idea.	4.27	0.84	High
2.	Teachers provide instruction on creating graphic organizers, outlining techniques, and note-taking strategies to facilitate better understanding of texts and lessons.	4.26	0.84	High
3.	Teachers offer guidance through the use of guide questions or by encouraging students to ask questions about the lesson or reading materials, promoting deeper processing of their meaning.	4.17	0.99	High
4.	Teachers introduce difficult words in texts prior to reading, ensuring students are familiar with them to facilitate comprehension.	3.93	0.94	High
5.	Teachers consistently remind students to use dictionaries to expand their vocabulary and learn new words.	3.76	1.01	High

6.	Teachers use creative and engaging activities to help students learn new words effectively.	3.82	0.99	High
7.	Teachers actively correct students when they mispronounce words, assisting them in improving their pronunciation skills.	4.27	0.94	High
8.	Teachers in subjects unrelated to English also contribute to the improvement of students' reading skills.	4.2	0.88	High
9.	Teachers in other subjects help students with reading difficulties by providing assistive activities.	3.71	1.02	High
10.	Teachers implement interactive reading development strategies like Peer Tutoring and Guided Collaborative Reading.	3.56	1.1	High
11.	Teachers use many activities for a single lesson to encourage collaboration and help develop their reading skills.	3.79	0.97	High
12.	Teachers cater to the different interests of students by offering a variety of activities to enhance their reading skills.	3.8	0.92	High
13.	Teachers consider the current skills of the students in giving reading materials and reading activities.	3.52	0.96	High
14.	Teachers vary strategies depending on students' strand and grade level.	3.89	0.98	High
15.	Teachers utilize books, technology, and engaging materials to create a stimulating learning environment for improving reading skills.	4.2	0.91	High
16.	The school/curriculum has lessons in both English and non-English subjects that are beneficial in the development of their reading skills.	4.16	1	High
17.	The school implements a program where struggling senior high readers are identified and are given assistance to improve their reading skills.	3.55	1.23	High
18.	The school fosters a reading culture that encourages students to read by designating reading time, providing ample reading materials, creating reading corners, and others.	3.64	1.07	High
19.	Teachers often take the initiative to call upon struggling senior high readers during free time to give additional support in improving their reading skills.	3.36	1.19	High
20.	Teachers prepare reading materials or reading kits specifically designed for senior high students who struggle with reading.	3.48	1.24	High
	OVERALL	**3.87**	**0.65**	High

Legend: Very High 4.50-5.00 High 3.50-4.49 Moderate 2.50-3.49 Low 1.50-2.49 Very Low1.00-1.49

C. Significant Difference Between the Teacher's and Student's Perception

This study further investigated whether there is a significant difference in the perception of teachers' performance level in teaching reading skills between students and teachers themselves. To do this, the Mann-Whitney U test was employed. Shown below are the result and discussion.

Table 5
The significant difference in the perception of teachers' performance level in teaching reading skills

Groups	N	Mean	SD	Mann U	p	Remarks
Students	205	3.867	.651	860.50	.012	Significant
Teachers	14	4.293	.413			

As shown in the table above, results indicate that students' mean perception score of teachers' performance in teaching reading skills was *3.867 (SD=.651)*. On the other hand, teachers' self-perception score of their performance was *4.293 (SD=.413)*.

The Mann-Whitney U test revealed a significant difference in the perception of teachers' performance levels between students and teachers *(U = 860.50, p = .012)*. This implies that there is a notable distinction in how students perceive teachers' effectiveness in teaching reading compared to teachers' self-assessments.

DISCUSSION

While the majority of indicators reflect positive perceptions, some areas for improvement are identified. The indicators related to the identification and support of struggling students (M=3.57, SD=1.02) received relatively lower mean scores, suggesting the need for further attention and enhancement of intervention programs. Additionally, the school can focus on developing a more robust reading culture (M=3.86, SD=1.03) to further promote students' reading engagement. The findings are consistent with previous research suggesting that effective reading comprehension instruction involves teaching students to use metacognitive strategies, such as monitoring comprehension, generating and asking questions, summarizing texts, and using graphic organizers (Reading Rockets, n.d.; Texas Education Agency, n.d.). The findings also support the idea that vocabulary and pronunciation are essential components of reading comprehension (ThoughtCo, 2019). However, the findings also reveal some areas for improvement, such as identifying and supporting struggling students and developing a stronger reading culture in the school. These areas may require more attention and resources from the school administration and teachers.

Interestingly, the students' data aligns with the data provided by the teachers, indicating that indicators associated with identifying and supporting struggling students have relatively lower mean scores (M=3.71, SD=1.02), further underscoring the necessity for additional attention and enhancement of intervention programs, as well as a stronger establishment of a reading culture within the school (M=3.87, SD=0.65). It is important to strengthen intervention programs and foster a more robust reading culture within the

school to address these areas of concern. This underscores the significance of continuous professional development for teachers and the creation of a supportive environment conducive to fostering reading engagement and assisting students with reading difficulties. According to TeacherPH (n.d.), reading intervention strategies are interventions implemented to aid students struggling with reading in various ways. These strategies may encompass reading aloud, phonics, word analysis, guided reading, partner reading, reading clinics, individualized reading instruction, literacy centers, and tutoring. The Department of Education (DepEd) also advocates for the use of the Reading Progress Tool by teachers, parents, and other reading specialists to assess learners' reading skills (DepEd, 2021). This tool serves as a self-instructional application designed to assist teachers in enhancing their learners' reading proficiency and cultivating a passion for reading.

The significant difference in perception has several implications. Firstly, it suggests a disparity between students' assessment and teachers' self-perception of their teaching performance in reading skills. This incongruity may arise from differences in expectations, perspectives, or communication barriers between students and teachers (Hattie & Timperley, 2007; Klassen & Tze, 2014). It further implies that students might have a more critical or less favorable view of the teaching methods employed in the classroom. This divergence may indicate a need for teachers to gain a better understanding of students' perspectives and tailor their instructional strategies to meet student's needs and expectations (Guskey & Bailey, 2019; Tomlinson & Imbeau, 2010).

Conclusions

In conclusion, this study contributes valuable insights into the perceptions of both students and teachers regarding the teacher's performance in teaching reading skills in senior high schools. While the majority of indicators reflect positive perceptions, certain areas for improvement have been identified, particularly concerning the identification and support of struggling students and the development of a stronger reading culture within schools. Notably, students and teachers share aligned perceptions regarding these areas, emphasizing the need for enhanced intervention programs and a supportive learning environment conducive to reading engagement. The rejection of the Null Hypothesis, as evidenced by the significant difference in perception between students and teachers, underscores the necessity for educators to better understand students' perspectives and tailor instructional strategies accordingly.

Recommendations

Based on the study's findings, it is recommended that senior high schools invest in Continuous Professional Development (CPD) for teachers to enhance instructional strategies for teaching reading skills, bolster intervention programs tailored to support struggling readers, cultivate a reading-positive environment through initiatives like book clubs and literacy events, facilitate open communication and collaboration among

stakeholders to address differing perceptions of teaching effectiveness, and employ data- driven decision-making processes to inform targeted interventions and enhancements in reading instruction. Furthermore, future researchers could enhance the current study by increasing the number of teacher respondents to strengthen the reliability of the results to more accurately represent the general population.

Compliance with Ethical Standards

Throughout the study, the researcher upheld various ethical standards. These includes ensuring the credibility of the research through the use of valid evidence, subjecting the study to the evaluation and approval of the institution's Ethics Review Committee, and honoring intellectual property rights. Before conducting interviews, participants were given enough time to review and consent to the informed consent form, which presented unbiased study details, informed them of their right to withdraw, assured confidentiality of data, and guaranteed anonymity. In order to safeguard the welfare of respondents, the researcher refrained from discrimination and took measures to minimize any potential adverse effects. Additionally, the researchers ensured there were no conflicts of interest and that the data was utilized solely for research purposes.

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POTENTIAL OF MATHO AS A LOCALIZED TEACHING STRATEGY IN ENHANCING THE MATHEMATICAL SKILLS OF GRADE 7 LEARNERS OF GUMACA NATIONAL HIGH SCHOOL, GUMACA WEST DISTRICT, DIVISION OF QUEZON

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ABSTRACT

The study analyzed the performance of grade 7 learners of Gumaca National High School utilizing MATHO as a localized teaching strategy in Evaluating Algebraic Expressions, Linear Equations in One Variable, and Linear Inequality in One Variable. The results showed that outstanding learners got the highest level of improvement, followed by very satisfactory learners. Satisfactory learners ranked third in terms of progress, while fairly satisfactory learners showed some improvement. After utilizing MATHO as a localized teaching strategy, the group of very satisfactory learners achieved the highest gain score of 36.92, followed by fairly satisfactory learners who achieved
34.62. Satisfactory learners received a gain score of 33.29. The outstanding learners achieved the highest gain of 33.13, followed by satisfactory learners who achieved a commendable gain score of 31.86. The fairly satisfactory learners showed a positive advancement with a gain score of 14.57. The study found that MATHO has the potential to enhance the mathematical skills of grade 7 learners. Consistent engagement with MATHO showed significant improvement, suggesting its potential. The implementing rules and guidelines in utilizing MATHO as a localized teaching strategy to enhance the Mathematical skills of grade 7 learners are proposed.

Keywords: *Localized Teaching Strategy, Performance in Mathematics, Grade 7 Learners, Intervention Materials, Manipulative Materials, BINGO Game, MATHO Game, Potential of MATHO, Rules and Guidelines*

INTRODUCTION

Mathematics plays a crucial role in developing learners' Science, Technology, Engineering and Mathematics (STEM) capabilities and 21st century skills. The authors also provide working definitions and reports on initial findings from a larger three-phase study aimed at exploring secondary Mathematics teachers' beliefs, attitudes, and practices towards the role Mathematics Education plays in developing learners' STEM capabilities and 21st century skills (Whitney-Smith et al., 2022).

However, recent assessments indicate a concerning trend in the performance of Filipino learners in Mathematics. According to the Trends in International Mathematics and Science Study (TIMSS) 2019 survey, Filipino learners scored significantly lower than their counterparts in other nations, with a Mathematics score of 297 – the lowest among participating countries (Magsambol, 2020). This underperformance is not an isolated incident. In the 2018 Program for International Student Assessment (PISA), which assesses 15-year-old learners across 79 countries, Filipino learners demonstrated subpar performance in both Mathematics and Science. Their scores of 353 and 357 in Mathematics and Science, respectively, fell well below the Organisation for Economic Co- operation and Development (OECD) average of 489 for both subjects (Paris, 2019).

Addressing the challenges in Mathematics Education is crucial for the Philippines to enhance its learners' academic standing and global competitiveness. This necessitates a comprehensive approach involving educators, policy makers, and the broader community to uplift the standards of Mathematics Education in the country.

In middle school, grade 7 learners focus on developing foundational skills in Mathematics, including sets and number systems, measurement, introductory algebra, geometry, and statistics. While memory retention is crucial for long-term learning, some learners face challenges in remembering class lectures, often characterized by slow learning, weak retention, and comprehension issues (Pillado et al., 2020).

Addressing these challenges, teaching strategies play a pivotal role in creating an engaging and effective learning environment. Studies, such as the one conducted by Casinillo and Guarte (2018), emphasize the importance of teaching strategies in the learning process. Leraner-centered learning, advocated by Sulaiman and Shahrill (2015), encourages active learner participation, fostering motivation and effective learning.

In the context of the Philippine Educational System, the K to 12 Enhanced Basic Education Curriculum is a dynamic framework designed to cater to the unique needs of learners. A key feature is the localization of instruction, allowing

teachers to tailor materials to their learners' specific needs. This approach, as highlighted by former Undersecretary Dina Ocampo, recognizes the importance of making the curriculum relevant by considering the unique context of each locality (Landas and Alova, 2022).

The concept of localized teaching strategies extends to instructional materials. Creus (2019) emphasizes the positive outcomes of using locally relevant materials, such as enhanced skills and creativity, increased learner performance, and improved applicability to daily life. This approach aligns with the dynamic nature of the curriculum, ensuring its effectiveness across diverse regions in the country.

The researcher, a secondary school Mathematics teacher, observed challenges at Gumaca National High School, including unmotivated learners, disengaged during math classes, bored, and doing different things instead listening in Mathematics lessons. Recognizing the need for innovation, the researcher developed the MATHO game as a localized teaching strategy. This game, a resemblance of bingo, aims to make Mathematics more enjoyable and challenging, addressing the issues of boredom and disregard of the lesson being faced by the learners. The initiative was part of a broader action research project within the Mathematics Department of Gumaca National High School, led by experienced educators with the goal of improving learners' performance, enhancing Mathematical skills, and encouraging learners to participate in Mathematics activities.

Research Questions

The study aimed to determine the potential of MATHO as a localized teaching strategy in enhancing the Mathematical skills of grade 7 learners of Gumaca National High School, Gumaca West District, Division of Quezon

Specifically, it sought to answer the following questions:

1. What is the performance of the learners in the summative test before and after the utilization of MATHO as a localized teaching strategy in the following least mastered competencies:

    1.1 Evaluating Algebraic Expression;

    1.2 Solving Linear Equation in One Variable; and

    1.3 Solving Linear Inequality in One Variable?

2. What is the gain score of the learners after exposing to MATHO as a localized teaching strategy?

3. Is MATHO, as a localized teaching strategy, has the potential to enhance the Mathematical skills of the grade 7 learners of Gumaca National High School?

4. Based on the results of the findings, what implementing rules, and guidelines in the utilization of MATHO could be proposed by the researcher?

METHODOLOGY

Research Locale

This experimental investigation took place within the Province of Quezon, situated in the CALABARZON region on Luzon Island in the Philippines. Quezon Province derives its name from Manuel L. Quezon, the first president of the Philippines to be freely elected, who hailed from Baler, a town that was once part of Tayabas, a precursor to Quezon Province. The provincial capital is Lucena, which serves as the administrative hub of this region.

The province encompasses an impressive land area measuring 8,989.39 square kilometers or 3,470.82 square miles and considered to be the longest province in the Philippine Archipelago. According to the most recent data from the 2020 Census, Quezon Province is home to a population of approximately 1.95 million residents.

Quezon Province boasts a rich tapestry of attributes that define its identity. It is renowned for its thriving agricultural sector, deeply rooted cultural heritage, spiritual significance, and an array of natural wonders, including the majestic Mount Banahaw and pristine beaches that adorn its coastline. Notably, it is distinguished by having one of the lengthiest coastlines among the 81 provinces in the Philippines. This geographical feature underscores the pivotal role of fishing as a crucial and thriving industry, vital to the region's economy and livelihoods of its inhabitants.

Gumaca, a municipality located in the province of Quezon, is home of Gumaca National High School (GNHS). Gumaca is situated in the southeastern part of Quezon Province on the island of Luzon. It is bordered by the municipalities of Lopez to the north, Pitogo to the south, Buenavista to the west, and Lopez Bay to the east, which opens to the Philippine Sea. It has a rich historical heritage and played a role in the Philippine Revolution against Spanish colonial rule. It was a center of revolutionary activities in the late 19th century. Agriculture is a significant part of the local economy in Gumaca. The municipality is known for producing a variety of agricultural products, including rice, coconut, vegetables, and fruits. It celebrates the Pahiyas Festival, which is a colorful and vibrant event held every May. During the festival, houses are adorned with colorful agricultural products, such as rice, fruits, and vegetables, as a way of giving thanks for the harvest. The town has several historic churches, including the St. John the Baptist Parish Church, which dates back to the Spanish colonial era and is an important cultural and religious landmark in the area. It is known for its natural beauty, including scenic coastlines along Lopez Bay and nearby beaches. The municipality offers opportunities for relaxation, swimming, and beach-related activities. According to the 2020 census, it has a population of 71,942 people. It represents 3.68% of the total population of Quezon.

This research was conducted at Gumaca National High School, a public secondary school, and the mother school of Gumaca, Quezon. The school is located at Barangay Mabini, Gumaca, Quezon.

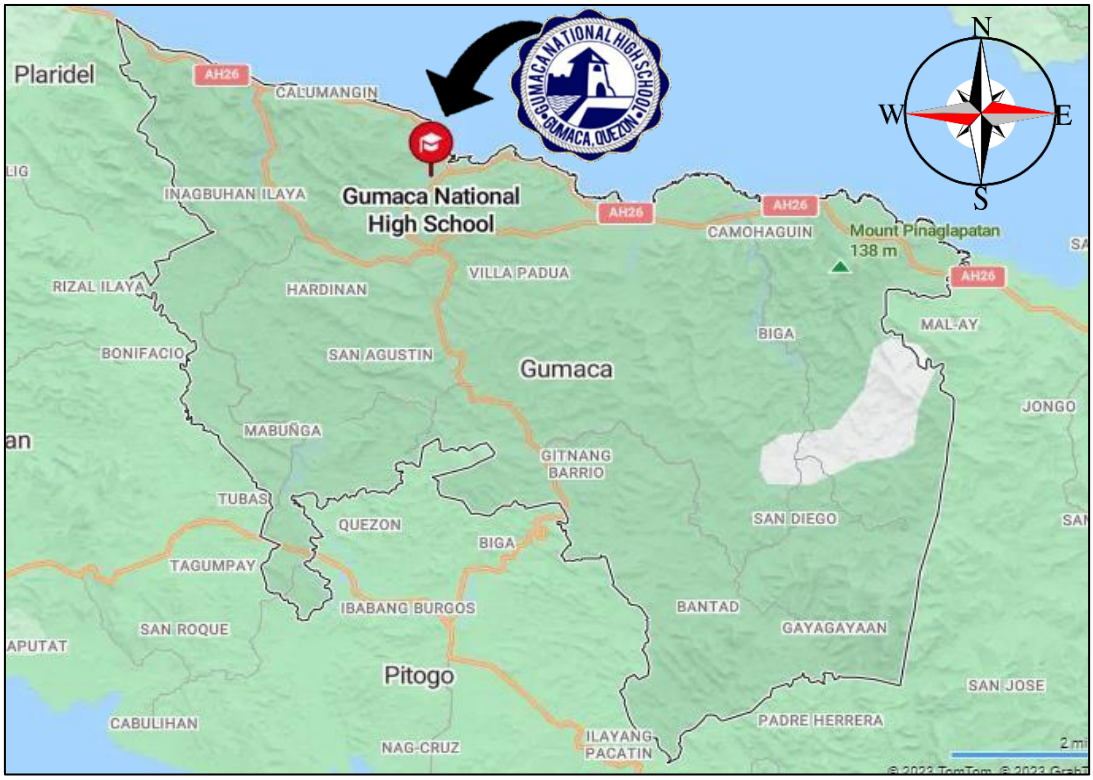
Gumaca National High School is in the “Mega School” category based on the Deped Memorandum No. 43, s. 2017 entitled 2017 Best Brigada Eskwela Implementing Schools Category. The school is composed of 201 teachers in total, 136 in Junior High School, 58 in Senior High School, 5 in ALS, and 2 in Madrasah. The school has 81 sections in total in Junior High School, 64 regular sections and 17 special programs. Grade 10 has 18 sections with 4 special programs and 14 regular sections, 22 sections in Grades 9 and Grade 8, with the same number of regular sections, 18 sections and 4 special programs, and lastly, Grade 7 has 19 sections where 14 is regular sections and 5 special programs. The special program class is composed of Special Programs in Arts (SPA), Special Program in Journalism (SPJ), Special Program in Sports (SPS), and Science Oriented Class (SOC). The learners in regular sections are heterogenous and grouped by where the learners live. The learners in the special program are homogeneous and grouped by what skills the learners have.

The selection of the research location, Gumaca National High School, was a deliberate and strategic choice made by the researcher, driven by the pressing issue about Mathematical capabilities among the learners in this school. This choice was motivated by the recognition of a significant challenge that was affecting the educational landscape: the struggle of learners in grasping fundamental Mathematical concepts.

One of the prominent issues faced by the learners in Gumaca National High School was a deficiency in their Mathematical skills. This deficiency was not merely an isolated problem but rather a complex web of interconnected factors. It was rooted in a lack of practice, an insufficient understanding of foundational Mathematical concepts, and a shortfall in overall Mathematics competencies. These factors collectively hindered the learners’ ability to excel in Mathematics.

Figure 2

The Location Map of Gumaca, Quezon



Research Population and Sample

The participants in this comprehensive study consisted of grade 7 learners enrolled in Gumaca National High School of the School Year 2022-2023, specifically representing the five sections that fall under the purview of the researcher. These sections encompassed three regular classes, namely G7-Matapat, G7-Matulungin, G7-Masunurin, and two Special Program in Sports (SPS) sections labeled as A and B. In total, the study comprised 165 learners, reflecting a diverse and representative sample of the grade 7 learners' body.

To ensure a thorough examination of the participants' academic profiles, the learners were systematically categorized based on their proficiency levels, which were determined by their previous quarterly grades. The proficiency levels included Outstanding Learners, Very Satisfactory Learners, Satisfactory Learners, and Fairly Satisfactory Learners. This stratification allowed for a nuanced analysis of the potential of MATHO as a localized teaching strategy, across varying levels of academic performance.

By incorporating learners from regular classes and those enrolled in the Special Program in Sports, the study aimed to capture a broad spectrum of learner experiences and aptitudes. The inclusion of learners with different proficiency levels ensured a comprehensive exploration of how MATHO influenced academic performance across a diverse range of learners. This approach is critical in understanding the potential impact of the teaching strategy on learners with varying learning needs and backgrounds.

The specific sections managed by the researcher were chosen intentionally to establish a more direct connection between the teaching strategy and its implementation. This targeted approach provided a unique opportunity to assess the potential of MATHO as a localized teaching strategy in a controlled and well-defined setting, ultimately contributing valuable insights to the broader educational discourse.

The participants selection process underscored the study's commitment to inclusivity and thoroughness, aiming to shed light on the nuanced relationship between the potential of MATHO as a localized teaching strategy and the academic performance of grade 7 learners of Gumaca National High School of the School Year 2022–2023.

Table 1

Respondents of the Study and their Groups According to Performance Level

Level of Performance	Number of Respondents
Outstanding	30
Very Satisfactory	46
Satisfactory	65
Fairly Satisfactory	24
Total	**165**

Table 1 shows the respondents of the study. The sample for this study consisted of 165 learners of the four proficiency levels: 30 outstanding learners, 46 very satisfactory learners, 65 satisfactory learners, and 24 fairly satisfactory learners.

Data Gathering Procedure

In the pursuit of addressing the Mathematical challenges haunting the learners of Gumaca National High School, the researcher embarked on a focused and systematic approach in dealing with the problem. The initial step involved in identifying a specific group of learners was the learners' previous quarterly grades, they are sorted into four categories. Outstanding Learners with grades of 90-100. Very Satisfactory Learners with

grades of 85-90. Satisfactory Learners with the grades of 80-84 and Fairly Satisfactory learners with the grades of 75-79.

Central to this practice session was the introduction of the MATHO as a localized teaching strategy. MATHO was carefully crafted to serve as an innovative resource in these instructional sessions. Its purpose was to act as a supportive and engaging aid, designed to enhance the learners' understanding of Mathematical principles and boost their Mathematical skills.

In a weeklong lesson, these dedicated learners, armed with their newfound focus and determination, delved into the practice sessions enriched by utilizing MATHO. The MATHO as a localized teaching strategy aimed not only to provide them with the opportunity to revisit and reinforce their Mathematical knowledge but also to instill a sense of confidence and competence in tackling Mathematical challenges.

Following this intensive week of educational endeavor, the learners faced another assessment: a follow-up Summative test. This test served as an essential barometer, a gauge of the potential of MATHO as a localized teaching strategy. It allowed the researcher to objectively measure any improvements in the learners' Mathematical skills, understanding, and overall performance.

The administration of this follow-up summative test marked a pivotal moment in the research. It was the point at which the potential of MATHO as a localized teaching strategy was put to the test, quantitatively. The results of this test would not only shed light on the potential efficacy of MATHO as a localized teaching strategy but also provide valuable insights into the progress and growth of the participating learners.

Research Instrument

The researcher used two instruments, the MATHO as localized teaching strategy and the summative tests.

1. MATHO

The researcher used MATHO in the lessons as a localized teaching strategy. The MATHO game is based on the BINGO game and is almost similar to it; the only difference is that in the BINGO game, the Bingo Announcer picked up a numbered ball with letter written corresponds to the number and announce that number and the letter, which determines which square gets covered on the player's BINGO card. Each letter in the word BINGO has a number that corresponds to it. Under column "B" with 5 squares, the numbers are from 1 to 15, and under letter "I" are numbered from 16 to 30, and in letters "N", "G", and "O", the numbers are from 31 to 45, 46 to 60, and 61 to 75, respectively. Each square has 15 numbers that can appear randomly with a total of 75 numbers. The BINGO game uses 1–75 natural numbers. Each square has a proportion of 15/75 or, in percentage, 20%. While in MATHO game, the MATHO Announcer or the Teacher uses a mathematical question printed in a rolled paper strip instead of a numbered ball. Each answer in each Mathematical question also has corresponding assigned letters in the

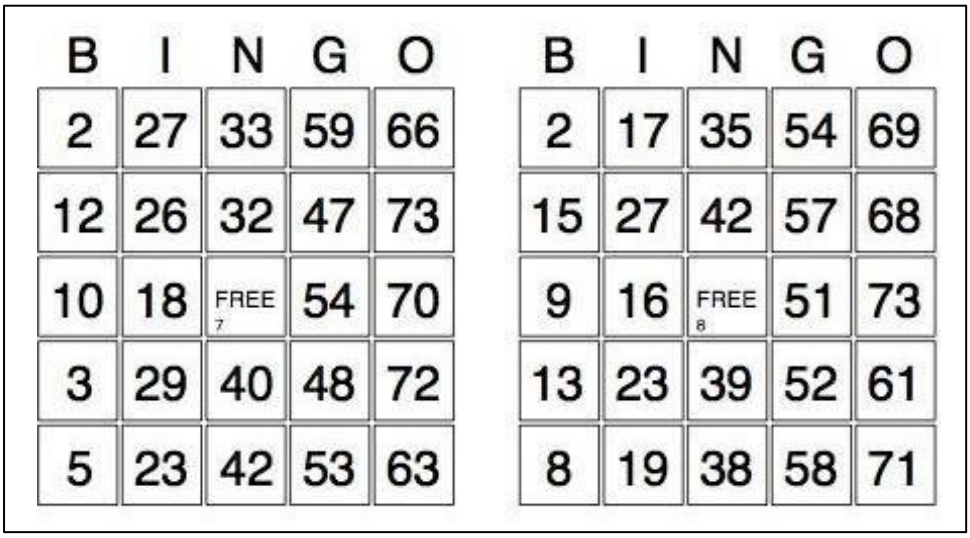
word MATHO. Under column “M” which also has 5 squares, has numbers from –5 to –1 and 1 to 5, and under letter “A” are numbers from –10 to –6 and 6 to 10, and in letters “T”, “H”, and “O”, has the numbers from –15 to –11 and 11 to 15, –20 to –16 and 16 to
20, and lastly, numbers from –25 to –21 and 21 to 25 respectively with the total of 50 numbers. MATHO card game uses integers from -25 to 25, except 0. Each square has 10 numbers that can appear randomly and has a proportion of 10/50 or in percentage, also has 20%. One of the lessons in the first quarter in Mathematics 7 is about operations on integers, and this is one of the first lessons in Mathematics 7 that the MATHO can be applied. The researcher made a lesson about operations on integers using MATHO.

The materials to be used: (1) MATHO Card (each learner can have 1 set of MATHO cards. Each set has 4 cards); (2) Questions are printed on a rolled paper strip;
(3) Markers (can use any chips, coins, or beads); (4) Bottle shaker (or any box) where the questions are printed in a rolled paper strip is inside that bottle and will be shaken and picked by the teacher one at a time; (5) Scratch paper and pen or pencil for the learners’ solutions. The sample question is “y + 4; if the value of y is –2”, under the least learned competency, Evaluating Algebraic Expression, the answer is 2, this answer falls under the letter M, and if the learners have that number on their MATHO cards, they can mark it.

For preparation: The teacher will choose topics in Mathematics 7 in the second quarter for which MATHO can be applied. Print the MATHO cards and the question strip. Prepare the learners and ask them to ready their MATHO cards, markers, scratch papers and pens. The mechanics of the game: (1) Set up the game; pass out one set of MATHO cards (four MATHO cards in each set) for each of the learners. Each set of MATHO cards must be unique; (2) Establish rules, explain the rules to the learners, and how someone wins the game. Rules to win; when the teacher picks up and reads off one Mathematical question at a time and allows the players to solve the problem and put their markers on one of the squares on their MATHO cards, only if the leaner have the number on their MATHO cards of the answer on the question. If a learner does not have a number on their MATHO cards, the learner loses the turn; if a learner has a number on their card and that is not the solution, the player loses the round. The game continues until someone has placed straight five or four markers vertical, horizontal, and/or diagonal on the MATHO cards and or other winning patterns (See Appendix D). The first learner to mark off one of these patterns will call out the word MATHO and be the winner of the game; (3) Display the problem, the teacher would check the MATHO cards of the learner if the learner marked their cards right, if not, that learner will losses the round. (4) END of the game.

Figure 3

Sample BINGO Card



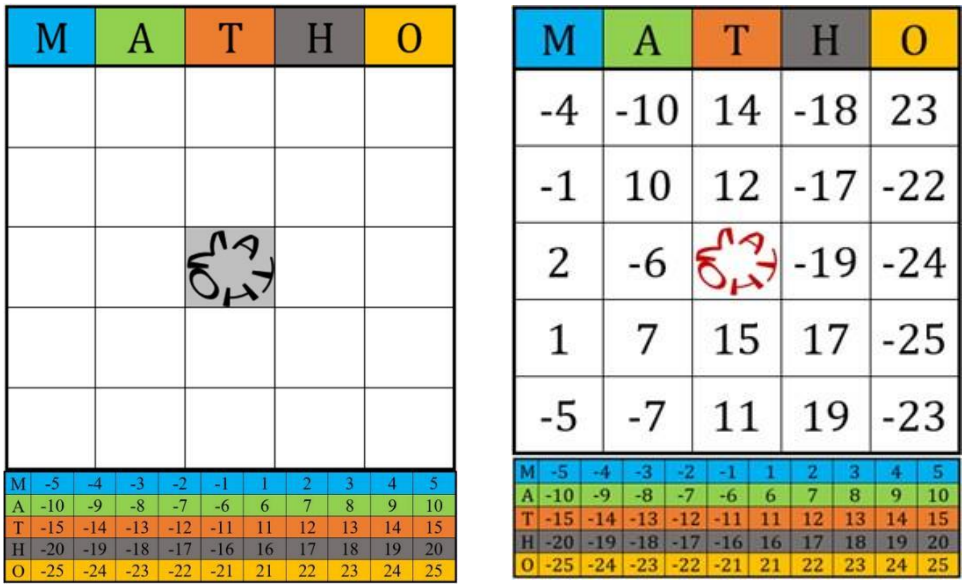
B	I	N	G	O
2	27	33	59	66
12	26	32	47	73
10	18	FREE 7	54	70
3	29	40	48	72
5	23	42	53	63

B	I	N	G	O
2	17	35	54	69
15	27	42	57	68
9	16	FREE 8	51	73
13	23	39	52	61
8	19	38	58	71

Figure 3 shows a sample of BINGO Card. The basis of the MATHO Card.

Figure 4

Sample MATHO Card



M	A	T	H	O
		MATHO		

M	-5	-4	-3	-2	-1	1	2	3	4	5
A	-10	-9	-8	-7	-6	6	7	8	9	10
T	-15	-14	-13	-12	-11	11	12	13	14	15
H	-20	-19	-18	-17	-16	16	17	18	19	20
O	-25	-24	-23	-22	-21	21	22	23	24	25

M	A	T	H	O
-4	-10	14	-18	23
-1	10	12	-17	-22
2	-6	MATHO	-19	-24
1	7	15	17	-25
-5	-7	11	19	-23

M	-5	-4	-3	-2	-1	1	2	3	4	5
A	-10	-9	-8	-7	-6	6	7	8	9	10
T	-15	-14	-13	-12	-11	11	12	13	14	15
H	-20	-19	-18	-17	-16	16	17	18	19	20
O	-25	-24	-23	-22	-21	21	22	23	24	25

Figure 4 shows the sample MATHO cards, the one at the left is the blank MATHO card so the learners may put the numbers of their choice in each box and the table below is the distribution of numbers where the learners may choose. Each column under per

letters of MATHO has assigned numbers, and at the right side is the ready-made numbered MATHO card.

Figure 5

Sample MATHO Question Strips

MATHO Questions – Evaluating Algebraic Expressions
Level 1 – One Variable, One Operation, One or Two Terms

Let: a = 1, b = 2, c = 3, x = –1, y = –2, z = –3

1	**M**	b – 1	1	26	**H**	z + 19	16
2	**M**	y + 4	2	27	**H**	c + 14	17
3	**M**	–3x	3	28	**H**	6c	18
4	**A**	3b	6	29	**H**	z + 19	16
5	**A**	z + 10	7	30	**O**	7c	21
6	**A**	-4y	8	31	**O**	$\frac{22}{a}$	22
7	**T**	a + 10	11	32	**O**	b + 21	23
8	**T**	$\frac{36}{c}$	12	33	**O**	$\frac{-72}{z}$	24
9	**T**	c + 10	13	34	**O**	7c	21

Figure 5 shows the sample MATHO Question. It will be cut into strips, rolled, and will be put in a bottle or a box. The sample question is under Evaluating Algebraic Expressions with the given values of the variables.

Figure 6

Sample MATHO Markers



Figure 6 shows sample MATHO Markers, any kind of plastics chips, coins, or beads.

2. Summative Test

These are teacher-made tests consisting of thirty multiple-choice questions covering all the three competencies that were used in the study. The first summative and second summative tests were given to learners before and after utilization of MATHO as localized teaching strategy. The Mathematics and English experts validated the three tests with comments and suggestions and guided the researcher in revising the tool. The validators were Brenda P. Libranda, HT-III, Juliet B. Ogayon MT-II (Retired), Frederick S. Brin, MT-I, Jocelyn Dapilos, T-III, Juliet Portades MT-II and all Mathematics Teachers of Gumaca National High School. They checked the alignment of test paper questions and the Table of Specifications (TOS). Mrs. Leilani T. Javier, MT-II and Mrs. Luzviminda P. Ware, MT-I of English Department checked the grammar, and test constructions.

Table 2

Results of the Validation of Utilizing MATHO as a Localized Teaching Strategy.

	Content	**Format**	**Presentation and Organization**	**Accuracy and up-to-date Information**	**Mean**
Student 1	4	4	3.8	3.8	**3.90**
Student 2	4	4	3.8	3.8	**3.90**
Student 3	4	4	3.8	3.8	**3.90**
Student 4	4	4	3.8	3.8	**3.90**
Expert 1	3.75	4	3.8	3.8	**3.84**
Expert 2	3.75	4	3.8	3.8	**3.84**
Expert 3	3.75	4	3.8	3.8	**3.84**
Expert 4	4	4	3.6	3.6	**3.80**
Expert 5	4	4	3.8	3.8	**3.90**
Totals	**3.917**	**4**	**3.778**	**3.78**	**3.87**
Verbal Interpretation: Very Satisfactory					
Legend:	4	-	Very Satisfactory		
	3	-	Satisfactory		
	2	-	Poor		
	1	-	Not Satisfactory		

Table 2 shows the result of the validation of utilizing MATHO as a localized teaching strategy. It was validated by the three Mathematics Teachers, two Master Teachers and five pilot learners of Gumaca National High School.

Statistical Treatment of the Data

The mean percentage score, and its descriptive equivalent (Based on the Curriculum and Learning Management Division-Learning Assurance for Monitoring and Progress) were used. The researcher assessed the potential of MATHO by comparing the first summative and Second Summative in learning competencies. The interpreted level of mastery from the performance is based on Curriculum and Learning Management Division - Learning Assurance for Monitoring and Progress (CLMD-LAMP) employed in Division of Quezon.

Table 3

Mean Percentage Score and its Interpreted Level of Mastery

Mean Percentage Score	Descriptive Interpretation
75.0049 % – 100 %	Highly Mastered
50.0049 % – 75 %	Mastered
25.0049 % – 50 %	Nearly Mastered
0 % – 25 %	Least Mastered

RESULTS

Part I. The Performance of the Group of Learners in the Summative Test Before and After the Utilization of MATHO as a Localized Teaching Strategy in the Least Mastered Competencies

Table 4

Summative Test Performance of the Learners in Evaluating Algebraic Expression Before and After the Utilization of MATHO as a Localized Teaching Strategy (per Learners' Category)

Level of Performance	First Summative Test Before Utilization of MATHO		Second Summative Test After Utilization of MATHO		Gain Score
	Mean Percentage Score	Descriptive Interpretation	Mean Percentage Score	Descriptive Interpretation	
Outstanding	46.08	Nearly Mastered	92.15	Highly Mastered	46.07
Very Satisfactory	45.85	Nearly Mastered	90.08	Highly Mastered	44.23
Satisfactory	45.95	Nearly Mastered	88.49	Highly Mastered	42.54
Fairly Satisfactory	38.52	Nearly Mastered	72.43	Mastered	33.91
				Mean Gain	**41.69**

Legend:					
	75.0049 %	–	100 %	-	Highly Mastered
	50.0049 %	–	75 %	-	Mastered
	25.0049 %	–	50 %	-	Nearly Mastered
	0 %	–	25 %	-	Least Mastered

Table 4 presents a comprehensive analysis of the least learned competency which is Evaluating Algebraic Expressions across different levels of learners. The outstanding learners demonstrated the highest level of improvement. Very satisfactory learners closely followed, showing substantial progress. Satisfactory learners ranked third in terms of progress. Fairly satisfactory learners also exhibited some improvement. This group got the lowest gain maybe they are still exploring the game. Notably, all levels of learners demonstrated growth and moved towards mastery in Evaluating Algebraic Expressions. Before the utilization of MATHO, the level of mastery is towards mastery that indicates

this competency had not yet mastered by some of the learners but after utilization of MATHO, this competency became highly mastered. Outstanding learners showcased exceptional understanding.

MATHO served as a valuable drill for all levels of learners. The game contributed to a hands-on drill, deepening understanding, and reinforcing the application of Evaluating Algebraic Expression.

MATHO, as a game-like activity, allowed learners to view Mathematical problem- solving as enjoyable. The element of competition and enjoyment fueled active participation and a willingness to engage with the material. The overall average improvement was 41.69, indicating a positive impact on motivation and learning outcomes. The enjoyable nature of MATHO is highlighted as a factor contributing to long- term retention of Mathematical concepts. Positive associations with the learning process may lead to learners retaining information and developing a lasting interest in the subject.

This study is connected to the study of Liu et al. (2021). The study investigated the use of manipulatives in Mathematics problem-solving for high-ability learners. The authors discovered that employing manipulatives had a modest to a significant effect on high-ability learners' Mathematics problem-solving abilities. They also discovered that the effect was more substantial in cases where manipulatives were utilized in addition to traditional training rather than only an exclusive form of instruction. According to the findings, using manipulatives can assist high-ability learners in developing problem- solving skills and improving their conceptual comprehension of Mathematical ideas. Games are a somewhat effective instructional strategy for teaching Mathematics. Suggested that using games instead of traditional teaching methods led to higher learning gains. Additionally, moderator analyses were mixed in terms of statistical significance and explored effect-size heterogeneity across effects using grade level, instrument type, length of game-based intervention, country, publication type, and study year characteristics (Tokac et al., 2019). According to Talan et al. (2020), educational games typically offer higher interactivity and immersive experiences, enhancing learner engagement. Lu et al. (2022) investigates the effects of Game-Based Learning (GBL) in comparison to traditional instructional methods and suggests that Game-Based Learning interventions have a positive effect on enhancing learners' computational thinking abilities. This implies that incorporating Game-Based Learning strategies into educational settings can be an effective method for promoting computational thinking skills among learners. Overall, their study provides valuable insights into the potential benefits of utilizing Game-Based Learning in education to cultivate computational thinking.

Table 5

Summative Test Performance of the Learners in Solving Linear Equations in One Variable Before and After the Utilization of MATHO as a Localized Teaching Strategy (per Learners' Category)

Level of Performance	First Summative Test Before Utilization of MATHO		Second Summative Test After Utilization of MATHO		Gain Score
	Mean Percentage Score	Descriptive Interpretation	Mean Percentage Score	Descriptive Interpretation	
Outstanding	25.39	Nearly Mastered	58.12	Highly Mastered	32.73
Very Satisfactory	26.42	Nearly Mastered	63.34	Highly Mastered	36.92
Satisfactory	29.15	Nearly Mastered	62.44	Highly Mastered	33.29
Fairly Satisfactory	19.38	Nearly Mastered	54.00	Mastered	34.62
				Mean Gain	**34.39**

Legend:					
	75.0049 %	–	100 %	-	Highly Mastered
	50.0049 %	–	75 %	-	Mastered
	25.0049 %	–	50 %	-	Nearly Mastered
	0 %	–	25 %	-	Least Mastered

Table 5 shows a comparison of the gain score achieved by learners at different levels in Solving Linear Equations in One Variable. Prior to utilization of MATHO, all levels of learners obtained an average score on the first summative test. However, after utilizing MATHO and taking the second summative test, it was observed that the group of very satisfactory learners attained the highest score with a gain score of 36.92. This was closely followed by the fairly satisfactory learners who achieved a gain score of 34.62. Meanwhile, satisfactory learners received a gain score of 33.29. Surprisingly, the outstanding group of learners showed the lowest gains in this competency. Interestingly, it can be noted that the fairly satisfactory learners performed better than the outstanding group in terms of their overall performance in Solving Linear Equations in One Variable.

It is coherent to the study of Vankúš (2021). The study investigated the influence of game-based learning in Mathematics education on learners' affective domain. This referred to the emotional and attitudinal aspects of learning, such as motivation, engagement, and enjoyment. The study likely examined how incorporating game-based learning approaches into Mathematics instruction affected learners' attitudes towards learning Mathematics and their overall emotional experiences during the learning process. By analyzing this influence, the study aimed to provide insights into the potential

benefits of using games in Mathematics education for promoting positive affective outcomes among learners. The study finds that game-based learning has positive effects on learners' motivation, engagement, attitudes, enjoyment, state of flow, etc. Current theories of education place significant emphasis on the development of learners' affective domain, which is linked to the subject and its instruction. However, game-based learning is sometimes not working for all types of learners. Karakoç et al. (2020) examine the impact of game-based learning methods on learners' academic achievement by means of a meta-analysis. In addition to revealing the overall effect of game-based learning on academic achievement, subgroup analyses were also conducted. The results of the study suggest that the effects of game-based learning on learner achievement are numerous and varied. Furthermore, because of the analyses, it was revealed that the effect of game- based learning on the academic achievement of learners does not differ according to the sub-dimensions of the levels of schooling, the different types of reporting and various disciplines.

Table 6

Summative Test Performance of the Learners in Solving Linear Inequality in One Variable Before and After the Utilization of MATHO as a Localized Teaching Strategy (per Learners' Category)

Level of Performance	**First Summative Test Before Utilization of MATHO**		**Second Summative Test After Utilization of MATHO**		**Gain Score**
	Mean Percentage Score	**Descriptive Interpretation**	**Mean Percentage Score**	**Descriptive Interpretation**	
Outstanding	34.66	Nearly Mastered	67.79	Highly Mastered	33.13
Very Satisfactory	39.62	Nearly Mastered	64.76	Highly Mastered	25.14
Satisfactory	37.89	Nearly Mastered	69.75	Highly Mastered	31.86
Fairly Satisfactory	37.76	Nearly Mastered	52.33	Mastered	14.57
				Mean Gain	**26.18**

Legend:					
	75.0049 %	–	100 %	-	Highly Mastered
	50.0049 %	–	75 %	-	Mastered
	25.0049 %	–	50 %	-	Nearly Mastered
	0 %	–	25 %	-	Least Mastered

Table 6 provide valuable insights into the progress made by the learners at different levels in Solving Linear Inequality in One Variable. It is intriguing to note that outstanding learners achieved the highest gain, with an impressive score of 33.13. Following closely behind are the satisfactory learners, who attained a commendable gain score of 31.86. Meanwhile, the very satisfactory learners showcased a respectable improvement with a gain score of 25.14. Lastly, the fairly satisfactory learners exhibited a positive advancement with a gain score of 14.57. Notably, the satisfactory learners consistently maintained their positions across various least learned competencies, showcasing their commitment to continuous growth and development. This highlights the potential of utilizing MATHO in nurturing and satisfying learners at different levels, enabling them to enhance their critical thinking and problem-solving skills in Mathematics and achieve their educational goals.

It is related to the study of Alcantara and Bacsa (2017). focused on evaluating the critical thinking and problem-solving skills of grade 7 public secondary learners in Mathematics. It involved assessing learners' abilities to think critically and solve Mathematical problems effectively within this specific grade level. The study likely investigated various factors influencing these skills, such as teaching methods, curriculum design, and learner demographics. By analyzing the critical thinking and problem-solving skills of grade 7 learners, the study aimed to provide insights into their Mathematical proficiency and identify potential areas for improvement in Mathematics education at the secondary level.

Part II. The Gain Score of Groups of Learners After Exposing to MATHO as a Localized Teaching Strategy

Table 7

The Potential of MATHO to Enhance Mathematical Skills of Grade 7 Learners Based on the Overall Gain Score of Different Levels of Learners in the Three Least Learned Competencies

Least Learned Competencies	Average Gain Score	Overall Gain Score
1. Evaluating Algebraic Expression	41.69	34.09
2. Solving Linear Equation in One Variable	34.39	
3. Solving Linear Inequality in One Variable	26.18	

Table 7 highlights the gains made by the learners at different levels in these three competencies. One of the competencies that saw the highest improvement was

Evaluating Algebraic Expressions, indicating a strong grasp of this fundamental concept. Following closely behind is Solving Linear Equations in One Variable, which requires a deep understanding of Mathematical principles. Finally, Solving Linear Inequalities in One Variable proved to be a challenging but crucial skill for learners to master. Despite the complexity of the three competencies, it is evident that utilizing MATHO in all three competencies have had a positive impact in the performance of the learners in Mathematics. However, it is important to note that the effectiveness of game-based learning can vary depending on the complexity of the lesson and the specific learning goals. Educators should carefully consider the learning objectives and choose the most suitable instructional methods for each lesson.

Adipat et al (2021), game-based learning may not always be applicable to complicated lessons. One study mentioned in the search results found that digital games were compared to other instruction conditions without games, and the results showed that digital games and simulations had a significant positive effect on students' cognitive competencies.

Part III. Potential of MATHO as a Localized Teaching Strategy to Enhance the Mathematical Skills of Grade 7 Learners of Gumaca National High School

The analysis of the data revealed that learners who consistently engaged with the MATHO showed remarkable improvement. This only suggested that MATHO has the potential to not only enhance mathematical skills but also developed critical thinking and analytical reasoning. The findings also indicate that the localized teaching strategy plays a crucial role in supporting learners' success. By tailoring the content to the specific needs and challenges, MATHO ensures that learners have access to relevant and relative examples. This localized teaching approach fosters a deeper understanding of Mathematical concepts and promotes greater engagement among learners. Additionally, the study found that MATHO's interactive features, such as quizzes and games, effectively engage learners and make the learning process enjoyable. This aspect is important as it helps maintain learners' motivation and enthusiasm towards Mathematics. Overall, these results demonstrated the effectiveness of the MATHO in improving Mathematical skills and highlight its potential to transform education by providing accessible and engaging learning materials for learners worldwide.

According to Creus (2019), using locally relevant instructional materials led to high learner performance, the importance of the lessons for the learners' day-to-day lives, easily understood lesson content and activities, enhanced skills, and creativity, and, as an innovation, the ability to meet learners' learning needs while also potentially advancing their careers. Coherence to the study of Heid and Gestwicki (2016), the effects of manipulative use on the achievement of Mathematics of high- and low-achieving learners are investigated. According to the authors, the use of manipulatives helped both groups of learners understand Mathematical concepts, although the advantage was greatest for high achievers. According to the study, manipulatives can aid high achievers in connecting disparate ideas and deepening their comprehension of Mathematical

subjects. The study also underlines how crucial it is to give learners manipulatives that are appropriate for their age and skill level.

Part IV. The Proposed Implementing Rules and Guidelines in Utilizing MATHO as a Localized Teaching Strategy to Enhance the Mathematical Skills of Grade 7 Learners

Based on the analysis of the MATHO as a localized teaching strategy for improving the Mathematical skills of grade 7 learners of Gumaca National High School, Gumaca West District, Division of Quezon, the implementing rules, and guidelines in utilization of MATHO as a localized teaching strategy was proposed. This aims to facilitate the utilization of MATHO to improve learners' Mathematical skills. The implementing rules and guidelines emphasize the consistent interaction with the MATHO, fostering the development of problem-solving skills and a deeper understanding of Mathematics. This not only yields academic benefits but also imparts valuable skills for future endeavors. MATHO's potential lies in its capacity to make the learning of Mathematics enjoyable and interactive, fostering a positive attitude towards the subject. By incorporating MATHO, learners can overcome apprehensions about Mathematics, ultimately building confidence in tackling complex problems. The implementing rules and guidelines serve the purpose of sharing and maximizing the potential of MATHO as an effective tool for enhancing Mathematical skills among grade 7 learners.

Making the rules and guidelines, the researcher used the format released by regional office, Curriculum and Learning Management Division and Learning Resources (CLMD) and Learning Resources Management and Development System (LRMDS). This format serves as a basis for the development of contextualized learning resources to all public schools.

The proposed implementing rules and guidelines in utilizing MATHO as a localized teaching strategy contains the following: (1). Materials Needed. This section outlines the materials required to conduct the MATHO game. This may include game cards, markers, score sheets, and any other specific items essential for the game. Ensuring that all necessary materials are readily available contributes to the smooth execution of the activity; (2) Preparation for Game. The instructions are provided on how to prepare the MATHO game. This may involve setting up the game area, distributing materials to participants, and explaining the rules and objectives. Adequate preparation ensures that the game runs efficiently and that participants understand their roles and responsibilities;
(3) Mechanics of the Game. This section details the rules and mechanics governing how MATHO is played. It may include information on how to start and end the game, the order of turns, scoring procedures, and any special rules or conditions. Clear and concise instructions help participants engage with the game effectively and understand the dynamics of gameplay; (4) Sample Questions. Sample questions are included to illustrate the type of Mathematical questions that the participants will encounter during the game. These questions align with the educational objectives and are designed to challenge

participants' problem-solving skills. Sample questions provide clarity on the level of difficulty and content covered, ensuring that the game is both educational and enjoyable.

These components in the proposed implementing rules and guidelines, organizers and participants gain a comprehensive understanding of how to conduct and participate in the MATHO game. Clarity in material requirements, preparation, procedure, game mechanics, and sample questions contributes to a positive and effective learning experience for the grade 7 learners of Gumaca National High School, Gumaca West District, Division of Quezon.

DISCUSSION

Summary

This study focused on the potential of MATHO as a localized teaching strategy in enhancing the mathematical skills of grade 7 learners of Gumaca National High School, Gumaca West District, Division of Quezon. The researcher conducted a regular basis class and identified the struggling learners in Mathematics during the teaching and learning process and through the summative test. The researcher conducted a summative test and learners who will get 75% lowest score on the said test will undergo in the remediation class and the researcher will utilize the MATHO as a localized teaching strategy.

Specifically, this research sought to answer the following questions:

1. What is the performance of the group of learners in the summative test before and after the utilization of MATHO as a localized teaching strategy in the following least mastered competencies:

    1.1 Evaluating Algebraic Expression;
    1.2 Solving Linear Equation in One Variable; and
    1.3 Solving Linear Inequality in One Variable?

2. What is the gain score of the learners after exposing to MATHO as a localized teaching strategy?

3. Is MATHO, as a localized teaching strategy, has the potential to enhance the Mathematical skills of grade 7 learners of Gumaca National High School?

4. Based on the results of the findings, what implementing rules, and guidelines in utilizing MATHO could be proposed by the researcher?

This study applied the quantitative experimental method of research dealing with the study of remediation class of below average performer learners in Mathematics.

The researcher used a 30-item validated and analyzed researcher-made test to administer the first summative and second summative test before and after the utilization of MATHO as a localized teaching strategy.

Summary of Findings

Based on the results, the major findings of the study were:

1. The result of the performance of learners in the summative test before and after the utilization of MATHO as a localized teaching strategy in the following least mastered competencies:

    1.1. In Evaluating Algebraic Expression, the outstanding learners demonstrated the highest level of improvement, closely followed by the very satisfactory learners. The satisfactory learners ranked third in terms of progress, while the fairly satisfactory learners showed some improvement as well.

    1.2. Solving Linear Equations in One Variable, all levels of learners obtained an average score on the first summative test. However, after utilizing MATHO as a localized teaching strategy and taking the second summative test, it was observed that the group of very satisfactory learners attained the highest score with a gain score of 36.92. This was closely followed by the fairly satisfactory learners who achieved a gain score of 34.62. Meanwhile, satisfactory learners received a gain score of 33.29.

    1.3. Solving Linear Inequality in One Variable, the outstanding learners achieved the highest gain, with an impressive score of 33.13. Following closely behind are the satisfactory learners, who attained a commendable gain score of 31.86. Meanwhile, the very satisfactory learners showcased a respectable improvement with a gain score of 25.14. Lastly, the fairly satisfactory learners exhibited a positive advancement with a gain score of 14.57.

2. The gain score of groups of learners after exposing to MATHO as a localized teaching strategy

One of the competencies that saw the highest improvement was Evaluating Algebraic Expressions. Following closely behind is Solving Linear Equations in One Variable, which requires a deep understanding of mathematical principles. Finally, Solving Linear Inequalities in One Variable proved to be a challenging but crucial skill for students to master.

3. Potential of MATHO, as a localized teaching strategy, to enhance the mathematical skills of grade 7 learners of Gumaca National High School

The analysis of the data revealed that learners who consistently engaged with MATHO showed significant improvement. This suggests that MATHO has potential in enhancing the Mathematical skills of grade 7 learners.

4. The Proposed Implementing Rules and Guidelines in the Utilization of MATHO Based on the results of analysis of the Potential of MATHO as a Localized Teaching Strategy in Enhancing The Mathematical Skills of Grade 7 Learners of Gumaca National High School, Gumaca West District, Division of Quezon, the implementing rules and guidelines in utilizing MATHO is hereby proposed by the researcher.

Conclusions

Based on the findings of the study, the following conclusions are drawn:

The MATHO as a localized teaching strategy has its potential in enhancing and honing the Mathematical skills of grade 7 learners of Gumaca National High School, Gumaca West District, Division of Quezon. Its characteristics in engaging learners to drive significant improvement are remarkable. The analysis of the data further highlighted the potential of MATHO as a localized teaching strategy in realizing learners' understanding of mathematical concepts. By consistently engaging with MATHO, learners can develop their problem-solving skills and deepen their knowledge in Mathematics. This not only benefits them academically but also equips them with valuable skills for future success. The potential of MATHO lies in its ability to make learning Mathematics enjoyable and interactive, fostering a positive attitude towards the subject. With MATHO, learners can overcome their fear of math and gain confidence in tackling complex problems. The positive impact that MATHO has on learners is a testament to its potential as an effective localized teaching strategy, and an innovation that can be used in the teaching learning process in the field of Mathematics Education.

Recommendations

Based on the findings and conclusion, the following recommendations were forwarded:

1. Based on the results of the first and second summative tests, it is recommended to all Mathematics Teachers that MATHO may be utilized as a localized teaching strategy in some topics in Mathematics. The material proved that all levels of performance of learners has significantly improved, especially in satisfactory learners.

2. Based on the analysis of the learner's performance utilizing MATHO in different learning competencies, it is evident that there are significant differences in their outcomes. To all administrators, may provide a support, in utilizing localized materials effectively to address these differences and enhance learner

achievement. Working

together may elevate the quality in learning Mathematics and ensure that every learner can thrive in this subject.

3. Considering that MATHO has potential, the school heads and teachers may collaborate to encourage Mathematics teachers to utilize MATHO as a localized teaching strategy to help learners who need assistance in improving their Mathematics skills in the classroom. Future researchers may replicate the study to re-evaluate the potential of MATHO as a localized teaching strategy or introduce other teaching strategies to enhance the Mathematical skills of the learners.

4. The researcher wholeheartedly advocates for future researchers to delve into their own inquiries regarding the potential of MATHO or to validate its utility as localized teaching strategy. It is essential to encourage further investigation, analysis, and experimentation to comprehensively assess the capabilities and impact of this educational tool.

By endorsing future research endeavors, the aim is to expand the body of knowledge surrounding MATHO and its potential contributions in enhancing learning outcomes. This call for continued exploration recognizes the dynamic nature of educational interventions and the need for ongoing refinement and adaptation to meet the evolving needs of learners.

In this discernment, future researchers are encouraged to embark on rigorous studies, employing diverse methodologies, and involving varied learner populations to gain a more comprehensive understanding of how MATHO can be optimized for educational success. These efforts will not only enrich the existing literature but also offer valuable insights that can inform educational practices and contribute to the ongoing improvement of Mathematics Education.

Compliance with Ethical Standards

After obtaining approval from the school head at Gumaca National High School (GNHS) and endorsement from the School Division Superintendent (SDS) through approval letters signed by the Dean of Graduate Studies of Marinduque State College (MSC), the authors proceeded with their research in strict adherence to ethical standards. Before initiating data collection, the authors ensured that informed consent was obtained from all participants, confirming their voluntary participation in attending classes during the utilization of the MATHO, a localized teaching strategy. Participants were assured of their right to withdraw from the study at any stage without facing any consequences. Stringent measures were implemented to safeguard the anonymity of respondents, preserving the confidentiality of their identities throughout the research process. The authors maintained a steadfast commitment to prioritizing the well-being of all participants involved in the study. They affirm that no conflicts of interest existed during the research process, and plagiarism was rigorously avoided to uphold academic integrity. Furthermore, the interpretation of findings was approached with impartiality to minimize bias, ensuring the reliability and validity of the study outcomes. The results obtained were utilized exclusively for research purposes, reflecting the authors' dedication to ethical

research conduct and the pursuit of knowledge advancement in the field of education. Attached here the administrative letters.

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PROBLEMS AND PRACTICES IN SOLID WASTE MANAGEMENT OF STUDENTS AT HOME

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ABSTRACT

This research aimed to investigate the problems and practices in solid waste management of students at home in terms of the 7Rs. It also explored on the relationship between these variables and some personal profile. The respondents of the study were the 169 Bachelor of Science in Agriculture and Bachelor of Science in Forestry students of Negros Oriental State University – Pamplona Extension. The researchers utilized the descriptive–correlational method, used a self-made questionnaire, and employed weighted mean, Chi-square, and Spearman's Rank-order Correlation Coefficient. The findings of the study revealed that the extent of problems encountered by the students in SWM at home is "moderate" in terms of insufficient sorting of SW and attitude while it is "high" in terms of low awareness of proper SWM, poor dumping practices, and poor coordination on proper SWM. Accordingly, the study disclosed that the extent of practices of the students on the 7Rs of SWM is "high" in terms of rethink, reuse, repair, regift, and recycle yet it is "moderate" in terms of refuse and reduce. It was also revealed that there is a significant relationship between the students' problems and the following practices in the SWM: rethink, refuse, reduce, reuse, regift, and recycle. All in all, it was found out that the educational attainment of the mothers of the students is significantly related to their problems and practices in SWM.

Keywords: *solid waste management, reduce, reuse, recycle, refuse, rethink, regift, repair*

INTRODUCTION

Management of waste is recognized globally as among the generation's major critical issues that affect our environment (Goel, 2017). This pressing problem is brought about by the world's increasing population as rural communities migrate to cities to seek opportunities. Knickmeyer (2020) mentioned that it was predicted by the United Nations Department of Economic and Social Affairs (UN DESA) that 68% of the population of the world will reside in cities by 2050. Accordingly, understanding the social factors influencing household behavior is crucial to building and enhancing municipal solid waste management systems (MSWMS). This growing problem in solid waste management will threaten public health in general as unsegregated wastes are just dumped in open landfills (Parkar et al., 2021). This global problem caused by exponential urban growth can greatly contribute to waste management problems, resulting in unsustainable development, with significant consequences in low-income countries (Debrah et al., 2021).

Increased solid waste production is also an issue in the Philippines since it is a dynamic country with a rapid economy due to increasing urbanization (Molina & Catan, 2021). Correspondingly, the guidelines and structure for the nation's management of solid waste was established by Republic Act (RA) 9003 on Ecological Solid Waste Management (ESWM) Act of 2000. One of the crucial aspects of this republic act is the formal delegation of the management of waste to local levels, the mandatory termination of illegal dumpsites, purchase of machineries, and the minimization as well as effective management of solid wastes (Domingo & Manejar, 2021). However, Galarpe (2017) pointed out that the local government entities failed to competently implement RA 9003 due to the absence of institutional waste management structures because of insufficient funds. He furthered that widespread usage of landfills and dump sites indicates these shortcomings in implementing solid waste management.

Several studies on Solid Wastes were conducted but these only focused on characterization and its management status and on raising awareness of solid waste management. These studies were centered within the community and schools, however, the current study focused on solid waste management at home because the researchers strongly believed that good values begin at home. The results of this study served as the basis for crafting an action plan that will benefit students, faculty and staff, and the parents. The observable outcomes are the development of sustainable SWM policy and procedures and reimplementation of University Memorandum Number 12, s. 2018, improved SWM awareness of students, which they can practice at home, interactive lessons integrating SWM, labeled trash bins on the campus, and extension programs to educate parents on SWM.

The researchers believe that this study can help reinforce the program on management of solid waste through formal training which leads to sustainability. The involvement of students in the practice of SWM and enhancing their sense of cooperation, responsiveness and teamwork are essential tools that will instill a culture of transforming

responsible waste management among them and help thereby reducing waste in their households.

Various literature and studies on the problems and practices in solid waste management are discussed in this section. Moreover, it connects the works of other authors to acquire concepts that are relevant to the study.

Solid waste. The term "solid waste" refers to garbage from commercial, industrial, mining, and agricultural operations and community activities (EPA, 2019). The study of Gelan (2021) supports the current finding that most of the solid waste is produced from households, followed by shopping malls, street cleaning, factories/ industries, lodging establishments, and medical facilities, respectively. The same is also confirmed in the recent study that was conducted by Khalid et al. (2022), which claims that most of solid waste produced within developing nations generates from homes, followed by the commercial or market sectors.

According to Chadar and Keerti (2017), the classifications of solid wastes are *municipal, industrial,* and *hazardous*. Household activities of human beings produce *municipal waste*. Meanwhile, industrial activities produce *industrial waste*. Lastly, the substances that cause hazard to plants, animals, and human beings produce *hazardous waste*. Correspondingly, Chand (2019) noted that the categories of solid wastes are *hazardous* and *non-hazardous*, which are, in turn, split into *biodegradable* and *non-biodegradable*. Municipal solid wastes include paper, plastic, cloth, metal, glass, and other organic materials, along with waste from homes and businesses. Although they must be collected and processed separately, hospital and nursing home wastes are included in the municipal solid waste in most cities and municipalities.

One of the many social and environmental issues that student households deal with is solid garbage. This is a pressing problem at global, national, and local levels because poor solid waste management can result in flooding, water shortages, water contamination, adverse health effects, and rehabilitation expenses that could be too much for the municipality to handle (Koop & van Leeuwen, 2017). In like manner, Chadar and Keerti (2017) confirmed some of the environmental impacts and health hazards caused by solid waste problems. These environmental impacts include contaminated liquids from dumps that permeate the ground and pollute groundwater; roadside trash left by scavengers and stray animals which causes aesthetic damage; burned plastic and rubber produce foul smells; and organic solid wastes produce foul odor during decomposition and pollute the environment. Meanwhile, various illnesses, including endemic typhus, bacillary dysentery, diarrhea, amoebic dysentery, plague, salmonellosis, trichinosis, jaundice, hepatitis, and gastro enteric disorders, are caused by health hazards. Therefore, controlling solid waste is crucial to lowering solid waste pollution and establishing a clean and pollution-free environment.

In the same way, management of solid waste has a direct impact on the environment and the consequent economic implications (Kaza et al., 2018). Inadequate garbage collection, improper disposal, and inappropriate facility placement can have a significant negative impact on the environment and human health at local and regional

levels. Consequently, solid waste contributes to climate change and ocean pollution on a global scale. A similar finding can be found in the study of Chand (2019), where poor solid waste management resulted in air, water, and soil pollution. Similarly, solid wastes may cause diseases as these wastes are breeding places for many vectors. Substances like polythene bags block drain pipes, paralyzing the drainage system. Lastly, stray animals could ingest harmful substances from food waste, which may result in many diseases and sudden death of these animals, and further increase solid waste.

Biodegradable waste. The term "biodegradable waste" refers to any organic waste that breaks down by the action of microorganisms, such as waste from the kitchen and garden, as well as waste from sanitary products, vegetable waste, and so on (Parkar et al., 2021).

Particularly, the study of Lunag and Elauria (2021) analyzed the biodegradable waste generated at home as a first step toward developing sustainable organic management alternatives. Their findings showed that a household with three to nine people produces between 0.04 and 0.31 kilograms of biodegradable waste per person per day, with a weighted average of 0.1122 kilograms. A household with five people can produce an average of 0.55 kg per day, mainly food scraps, followed by kitchen waste made up of vegetables and fruits, raw meat and fish, yard/garden materials, and wet papers. In addition, they noted that family size is correlated positively with household generation and negatively with per capita generation. Importantly, their research supports decentralized biological treatment as a realistic way to reduce and divert trash.

On the one hand, there are good and bad practices for biodegradable waste disposal. Separating biodegradable trash, dumping it in a compost pit, and turning it into plant fertilizers are all good practices to reduce biodegradable wastes (Domingo & Manoos, 2017). On the other hand, uncontrolled burning in the backyard is a bad practice for reducing biodegradable waste because it causes premature deaths in adults due to greenhouse gas (GHG) emissions (Reyna-Bensusan et al., 2018).

Non-biodegradable waste. Parkar et al. (2021) described non-biodegradable waste as a waste that does not break down when exposed to the action of microorganisms. Some examples of non-biodegradable wastes include plastic, rubber, metal waste containers, and other types of packaging. Furthermore, their findings also stipulate that plastic has become a vital component of daily life because of its adaptability, leading to various uses. However, because it is not biodegradable, the issue occurs when it does not break down in the natural environment. Therefore, it is essential to minimize the use of plastic whenever possible. Plastics can either be recycled or utilized to reach this goal.

The same was also confirmed in the study of Dwivedi et al. (2019), which points out that materials like polymers play a crucial role in our daily tasks. Due to their wide range of applications across numerous industries, polymers have consequently seen a tremendous expansion in global production and disposal. However, a considerable portion of the polymeric wastes do not decompose and are bulkier than the organic

remains. Because of this, non-biodegradable polymeric waste has accumulated due to their constant demand, taking up a lot of landfill space and posing environmental risks.

Accordingly, the findings of Domingo and Manoos (2017) disclosed that the coastal people of Boac, Marinduque, Philippines, sort their wastes by separating biodegradable and non-biodegradable, dumping them in vacant lots, and recycling them. However, most of their research respondents prefer trading some of the non-biodegradable wastes in junk shops rather than recycling.

Hazardous waste. Wastes classified as hazardous have characteristics that make them unsafe or potentially damaging to the environment or human health. Liquid, solid, confined gas, and sludge are all examples of hazardous wastes.

As emphasized by Narayan et al. (2022), hazardous healthcare waste generated in the homes of the Coastal City of Karnataka, India, makes up about 0.5 percent of biomedical waste. It is frequently thrown away with other household garbage, although it may be contagious. Their study indicated that baby diapers were the most prevalent hazardous trash. Likewise, there is more generation of other sanitary wastes such as used condoms, particles from menstruation, razor blades, and lancets monthly. Compared to rural families, 28 (37.33 percent) of urban households had higher knowledge of potentially hazardous healthcare waste than 7 (9.3 percent) of them. A majority of households—71 (94.7 percent) in urban areas and 49 (65.3 percent) in rural areas—were in support of disposing hazardous home biological waste. Comparatively, urban households show better knowledge, attitudes, and practices regarding hazardous healthcare waste created at the household level.

At a Zimbabwean university, Maphosa (2021) investigated students' awareness and attitude toward e-waste management practices. The paper describes complicated problems associated with incorrect e-waste treatment in a developing nation, which leads to deterioration of the environment and human health. An electronic survey was used to collect data from 216 student respondents. According to the findings, majority of participants disposed of their e-waste with regular trash. To ensure proper management of e-waste, participants highlighted the need for greater awareness, policies, collection sites, and recycling services. Effective e-waste management practices have not been implemented despite knowledge of the harm that e-waste causes to the environment and to people's health. The research calls on policymakers to create e-waste rules and value chains that will sustain the e-waste ecosystem. The institution should set up key recycling facilities, establish e-waste collection stations, and create local e-waste rules. Establishing e-waste societies within the university would help to spread awareness, education, and a pro-environment attitude towards managing electronic waste.

The results are likewise evident in the study of Celestial et al. (2018) on “Management of E-waste in the Philippines referred to “E-waste” as outdated or discarded electrical equipment. E-waste handling that is improper or outdated may emit toxic byproducts that are bad for the environment and human health. They disclosed that official statistics on generation of e-waste in the Philippines are lacking. To create a

database and evaluation system for managing electronic waste, the government can work with academic institutions, facilities that process e-waste, civic society, and other organizations. On that account, they asserted that the national and municipal governments should implement and execute existing e-waste rules including the Basel Convention, RA 6969 and 9003, and DAO 2013-22 more strictly. Lastly, they contended that public awareness of e-waste risks and management is necessary, including information on accredited E-waste Treatment, Storage, and Disposal (TSD) facilities.

Act of 2000 on Management of Ecological Solid Waste Management (RA 9003). The Ecological Solid Waste Management Act of 2000, also known as Republic Act 9003, was passed on January 26, 2001 in the Philippines in response to the growing problems with solid waste management (Atienza, 2020). According to RA 9003, the field of the management of solid waste is focused on the production, preservation, transfer, gathering, and transfer of solid wastes as well as their processing and disposal (Ibañez & Torrentira, 2022).

Specifically, in response to the urgent demand for solid waste management and the threat it poses to the environment and human health, former President Gloria Macapagal-Arroyo approved the Ecological Solid Waste Management Act in the year 2000. This RA 9003 mandates that every LGU turns its uncontrolled dumps into controlled ones for a period of three (3) years of its approval and that no dumps that are controlled shall be allowed for five (5) years following the Act's implementation. In addition, Section 10 specifies the role of LGUs in the management of solid waste, wherein sorting as well as collecting of solid waste, especially biodegradable, compostable, and reusable waste should be done at the barangay level, provided that the municipality or city is in charge of collecting materials that cannot be recycled and other types of waste (Dalugdog, 2021).

Recently, Ibañez and Torrentira (2022) emphasized in their study that waste management has an impact on the environment and public health. Management of Municipal Solid Waste (MSW) is challenging in emerging and developed countries. They also reported that solid waste from generation to final disposal in Tanauan, Leyte could be categorized into five functional parts: (1) trash generation, (2) trash storage, (3) trash collection, (4) trash transportation, and (5) trash disposal. Residents in their own homes do the first two things, while Tanauan's local government does the last three. Furthermore, the rapid population development and economic growth are environmentally-damaging and have affected how people make and categorize waste. They also stressed that people in impoverished countries are not very good at handling municipal solid trash, which has caused an issue. While developing nations produce less solid waste, improper disposal pollutes the environment. Lack of knowledge in waste management contributes to environmental issues. This led to the passing of the Ecological Solid Waste Management Act of 2000 (RA 9003).

Furthermore, Formarejo and colleagues' (2022) correlational study reported that Inland resorts have a high degree of awareness of Republic Act 9003, actively participate in it, have a lot of resources at their disposal, and strictly enforce and follow it. They also came to the conclusion that public participation is closely tied to understanding, supplies,

and execution. Enforcement is moderately connected with resource availability and public awareness but immensely associated with participation and resources. Compliance to RA 9003 is connected with resources and enforcement but not with involvement and awareness. RA 9003 compliance is not, however, predicted by factors like awareness, involvement, resources, or enforcement. Accordingly, Republic Act 9003 is a good law, but Senator Loren Legarda stressed that its effective implementation depends on everyone's efforts. In particular, the LGUs and barangays with the authority to implement and enforce the law should ensure strict compliance with this law's mandatory requirements.

Romualdo et al. (2022) conducted a study to evaluate the degree of implementation and integration of solid waste management indicators in General Santos's public and private schools in terms of reuse, reduction, collection, recycling, treatment, and final disposal of waste, and IEC drive. The respondents, which included students in senior high school, teachers in science, and school administrators from one (1) public and one (1) private school, were given a modified questionnaire. The comparison of execution and integration outcomes between private and public educational institutions revealed that both substantially executed and integrated the solid waste management policy, with respective composite means of 3.55 and 3.42. With a t-value of 1.03941 and a p-value of 0.319106, which is less than 0.05 (p.05), the results of the T-test on the degree of Solid Waste Management execution and integration between the two chosen big institutions in General Santos City revealed no significant difference. This explains why General Santos City's two public and private schools implement and integrate solid waste management considerably. Therefore, it is essential that schools continue giving solid waste management programs and causes top priority. The administrators of the schools must also uphold high standards for the inclusion of SWM in the educational process through initiatives, rewards, alliances, collaborations, organizational resources, and equity.

Problems on solid waste management. Khalid and colleagues (2022) stressed that disposal of waste is among the most serious issues in the environment. Air, water, and soil contamination caused by poor management of waste change the ecosystem, and threatens human health. In fact, local people who lived near Municipal Solid Waste (MSW) plants had babies with low birth weights, birth defects, and a small number of cancers when they were young. Furthermore, the increased production of solid wastes intensified the increasing costs of municipal budgets. Due to improving standards of living, urbanization, economic growth, and population growth, municipal solid waste production has noticeably expanded. This section will discuss the various problems on solid waste management according to the following: 1) insufficient sorting of SW, 2) low awareness of SWM, 3) poor dumping practices, 4) poor coordination on proper SWM, and 5) attitude.

Insufficient sorting of SW. The study of Coracero et al. (2021) includes the release of the press from the Senate Economic Planning Office (SEPO) in 2017 containing a presentation in tabular form of the daily generation of solid waste in tons according to an article from National Solid Waste Management Commission (NSWMC). The tabular presentation displays daily generation of waste by region from year 2012 to

year 2016. The production in the Philippines increased from 37,427.46 tons in year 2012 to 40,087.45 tons in year 2016. It was discovered that NCR, Region 4A (Calabarzon), and Region 3 (Central Luzon) were among the most significant sources of production of solid waste in Luzon. The aforesaid regions produced 1,754,241 tons of solid trash in 2016, accounting for 43.76 percent of nation's total waste. Enormously populated communities were dispersed throughout the said regions, particularly the NCR, where Manila, the Philippine capital, can be found. As stated in their report, the quantity of generated waste in Philippine cities increases by approximately 165% by year 2025, from 29,315 to 77,776 tons per day. Increased waste production is seen to be one of the main reasons of problems with solid waste management, such as a lack of space for trash disposal.

According to Nguyen and Tan (2020), most waste management studies in rural regions revealed a lack of local policies. For example, with the solid waste management (SWM) ordinance not yet in effect, Barangay Lahug in Cebu City approved the "No Segregation, No Collection" policy for the entire city. Another is the absence of Materials Recovery Facilities (MRFs) and unsegregated wastes in Bayog, Los Baños, and Laguna, which indicate that RA 9003 has not been implemented there. Furthermore, biodegradable waste composting was minimally practiced. Instead, kitchen scraps were either fed to domestic animals or dumped outside the home. Thus, the strict waste management regulations put in place by the local municipal government were followed by every village.

The inappropriate disposal of solid waste may lead to unsanitary conditions and environmental contamination. It can also cause Vector-borne disease outbreaks. If solid waste is not sorted correctly, it can harm our health, environment, and prosperity. Ineffective solid waste management pollutes the world's oceans, clogging sewers and causing flooding (Ijjasz-Vasquez et al., 2018).

Low awareness of SWM. The study of Domingo and Manoos (2017) exposed that the responses of the residents in Boac, Marinduque in anticipating any problems with the solid waste management they currently practice are "high." However, some residents expressed that they do not expect any problems with the solid waste management they currently practice. Furthermore, the practices and problems encountered by residents revealed that most of them have an equal amount of biodegradable and non-biodegradable waste they produce daily from their routine demands. Most barangays separated their biodegradable from non-biodegradable waste before disposal, while others did not practice waste segregation. Lastly, the data on the respondents' degree of knowledge regarding solid waste management laws in their municipality and barangay displays that most responses are "I know, but I do not fully comprehend." It demonstrates that they are aware of the meaning and objectives but are not fully aware of them. In summary, their findings suggested that if the residents' practices are low, the higher the problems are encountered by the residents regarding waste management.

The same is likewise evident in the study of Saguban (2020), where residents' level of involvement and awareness of programs for proper management of solid waste

in a specific barangay is only "high." Next, she also noted that the residents practice waste segregation, but their performance is "not very high." She made emphasis that the local governments blamed waste generators' lack of awareness and discipline for poor segregation. In terms of composting biodegradable wastes, the extent of application by residents only shows "moderately high." Such a result would mean the conduct of training for the barangay residents concerning composting is not fully observed. Lastly, Application of solid waste management procedures varies significantly between barangay officials and residents. In summary, her findings revealed that if the extent of solid waste management practices is highly applied or implemented, the lower are the problems encountered in solid waste management.

However, in the study of Bungau et al. (2018) on pharmaceutical waste management in Romania, their findings showed that pharmacy professionals are unconcerned and poorly informed about the utilization and disposal of pharmaceutical waste. More informational initiatives are therefore necessary to update and teach the general public on the safe handling, storage, and disposal of medical waste. Furthermore, the results of their survey also showed that the lengthy process/lack of time, lack of legislation/method of collection, lack of processes, and expensive expenses are the primary reasons why some pharmacists refuse to accept unused prescriptions from the general population. Specific and comprehensive legislation is needed to address these issues, as well as the public's lack of interest, inadequate knowledge about decreasing pharmaceutical waste, and rising medication consumption. Clear roles, duties and education/awareness campaigns for employees and citizens must be included in laws, policies, and procedures for recovering pharmaceutical waste from the general population.

The same was also confirmed in the study of Parajuly et al. (2020) on electronic waste management. Environmental problems such as municipal solid waste management are rooted in human behavior and behavioral changes. Environmental literacy does not translate into sustainable actions. As a result, the effectiveness of intervention strategies to encourage pro-environmental behavior relying on information campaigns is limited. Moreover, beliefs about environmental impacts and the effectiveness of one’s action come into play between values and norms. In other words, these beliefs and norms, and thus the willingness to perform a particular action, can be shaped by information.

Poor dumping practices. Different forms of municipal solid waste could affect human health and the environment depending on garbage disposal practices. In fact, plastic wastes are an increasing source of worry globally since they linger for long periods. If organisms ingest plastic wastes, this may impact the health of the food chain, including humans. Moreover, fugitive emissions from waste treatments were responsible for 3%–4% of the world's greenhouse gas (GHG) emissions back in 2006. Another significant long-term local effect of waste leachate's nitrogen pollution is the possibility of disease and nutrient imbalances in neighboring water bodies. Lastly, the open burning of wastes produces substantial amounts of dangerous air pollutants that could seriously harm the human health particularly in developing countries (Chen et al., 2020).

In a book written by Kaza et al. (2018), it was stressed that poorly managed waste contaminates the world's oceans, clogs sewers and causes flooding, transmits diseases by vector breeding, increases respiratory problems from burning waste, harms animals that unintentionally consume waste, and affects economic development. Waste from decades of economic progress needs immediate response at all levels of society. Furthermore, based on waste volume, composition, and management, solid waste treatment and disposal produced 1.6 billion tons of carbon dioxide (CO2) equivalent greenhouse gas emissions, primarily from open dumping and landfills without landfill gas capture systems. In fact, there is 5 percent of worldwide gas emissions. If no changes are made, solid waste-related CO2 emissions might reach 2.6 billion tons annually by 2050.

The same is likewise evident in the study of Domingo and Manoos (2017), that in most households in barangays where garbage is not collected, the residents dispose their waste improperly by burning, burying, or tossing it into adjacent creeks, vacant lots, and open canals, or the coastline. As an outcome, the shorelines frequently have waste and trash during rainy seasons. Furthermore, dumping in vacant lots results in an insect breeding ground, an eyesore to the general public, production of unpleasant smells, high winds and floods spread solid waste, and waste scattered by animals. Meanwhile, the direct burning of waste produces dense smoke and an unpleasant smell which can harm or aggravate the health of persons with cardiac conditions and impair the environment. Lastly, dumping solid waste in rivers, streams, and oceans in the coastal barangays causes terrible odor and water pollution and hinders fishing and other water activities.

As stressed by Gelan (2021), without any sorting, the collected trash from Addis Abeba, Ethiopia, is dumped at the Reppi open landfill site. Open dumping, according to him, is by far the most typical practice. Hence, this type of waste disposal practice will cause problems for the community and the environment. In addition, he also conveyed that there is a lack of segregation practices in the waste dump that encourages many selvages (waste pickers) to enter and search the area for recyclable and reusable products. The landfill has also caused various societal problems, such as odor and environmental issues. In summary, his findings stipulated that if the waste segregation practices are low, the higher are the problems encountered in waste management.

Poor coordination on proper SWM. Meanwhile, the study of Gelan (2021) revealed that an organization is in charge of regulating the transportation and dumping of solid garbage from districts and sub-cities. The organization's main tasks included gathering solid waste generated on the street and moving collected solid waste to the landfill. To manage the trash produced by various service providers (Non-Governmental Organizations and the business sector) and families, the organization has offered transportation and solid waste collection services to private groups. Unfortunately, these groups' services are insufficient to collect the waste produced in the city entirely. He also mentioned how cities in developing nations have not been able to implement Integrated Solid Waste Management (ISWM) systems fully.

The same finding was also revealed in the study of Saguban (2020), where standard collection vehicles used are open dump trucks and compactor trucks. The

poorer areas of cities, municipalities, and rural barangays are typically under-served. As a result, the uncollected trash primarily winds up in neighboring water bodies, which pollutes the major water bodies as well as clogs the drainage systems, and causes flooding during heavy rains. In addition, her findings also revealed that the problems encountered by the barangays have a significant relationship and inverse relationship, although weak, with the following SWM practices in terms of the extent of application, such as the creation of 1) barangay solid waste management committee; 2) no segregation, no collection policy; 3) promotion of reducing, reusing, and recycling (3Rs); and 4) Collection and disposal of solid wastes.

Consequently, the problems encountered by the barangays have no significant relationship to the following extent of application of SWM practices such as 1) promotion of composting of biodegradable wastes and 2) the establishment of the material recovery facility. Lastly, the results indicated a significant but weak relationship between the problems encountered in maintaining solid garbage disposal and the degree of involvement of the community in formulation and implementation.

Attitude. The study of Wu et al. (2021) reported that as urbanization has accelerated, municipal solid waste (MSW) has risen dramatically. China has enacted a mandatory classification policy for municipal solid waste to recycle MSW more efficiently. Moreover, public MSW sorting behavior is significantly affected by attitude. Their study analyzed the data of Sina Weibo users and their remarks on related popular posts to examine the emotional disposition of Chinese residents toward the MSW sorting policy. In the interim, text-mining technology was utilized to examine the result. Although a significant fraction of the Chinese population shows a positive attitude toward the municipal solid waste (MSW) sorting policy, the ratio of individuals with a negative attitude reached nearly half. In addition, different regions of China give varying amounts of attention to the MSW sorting policy. In addition, the results revealed that penalties, MSW sorting rules, fees, the timing of waste disposal, and irregular recycling procedures were the primary causes of the public's negative attitude. Lastly, their study provides policy guidance for practitioners and policymakers by analyzing public sentiment regarding sorting municipal solid waste (MSW).

Solid waste management practices. Currently, the majority of waste is dumped or disposed of in a landfill of some kind. A landfill is used to dispose about 37 percent of waste, and 8 percent of that waste is dumped in sanitary landfills with landfill gas collection systems. Thirty-three percent of waste is dumped openly, nineteen percent is recycled or composted, and eleven percent is burned as the last step in the disposal (Kaza et al., 2018). This section will discuss the various solid waste management practices according to the following 7R's: 1) rethink, 2) refuse, 3) reduce, 4) reuse, 5) repair, 6) regift, and 7) recycle.

Rethink. According to Los Angeles County Public Works (2023), future generations would benefit from a more sustainable environment if people minimize waste production. Rethink before discarding an item that is believed to be damaged, worn out, or no longer desired. Before discarding anything, one should consider if the item can be

reused, repaired, or recycled. In addition, Abdullah's book (2021) emphasizes that the 'rethink' principle for consumers may entail an understanding of how to properly dispose of used items properly, whereas, for manufacturers, it entails the creation of environmentally friendly products. Innovative new products should include eco-friendly antibacterial face masks, biodegradable mitts, and compostable shields. As is customary in the business world, the most crucial factor is that manufacturers make all these products accessible to consumers from diverse economic circumstances. Producing high-quality products at affordable prices is a challenge. Still, it is the duty and responsibility of manufacturers to consider it, following the demand to rethink for the sake of the environment.

The study of M'Nkubitu (2022) on rethinking organic municipal solid waste management in Kenyan urban areas emphasized that organic waste makes up a significant portion of municipal solid waste, particularly in developing nations. Its management faces numerous obstacles, ranging from limited financial and technical resources to a lack of or ineffective policy enforcement. As a result, such factors lead to improper waste management, leading to open dumping and disposal in landfills if the 7Rs' rethink principle is not practiced. These practices are detrimental to both the environment and the human population. Actors in various locations have implemented circular economy strategies to manage organic waste better and recover resources to improve the situation.

In addition, Akala (2021) emphasized that Kakamega County lacked knowledge on fitting the 7Rs strategy (reduction, rethinking, refusal, recycling, reusing, repairing, and refilling) to the generated banana waste; banana waste utilization technologies; and challenges of on-farm banana waste management. The findings of their study showed that 75% of farmers had embraced and disregarded the 7Rs' rethink in banana waste business incubation, innovation, and diffusion of banana waste utilization and management strategies in equal proportion.

Moreover, the study of Ibañez and Torrentira (2022) asserted that "limited" information and education campaigns result in poor waste segregation practices at the household level of Tanauan, Leyte. For this reason, the 7Rs in terms of rethink is not well practiced because each household collected their wastes in a single container, wherein biodegradables, non-biodegradables, and all other wastes were mixed because people did not bother to segregate them. The municipality does not currently have a policy or local regulation encouraging residents to practice waste segregation. Furthermore, there are no specific schedules or trucks designated to collect various types of waste during waste collection.

Furthermore, it was accentuated in the study of Tupas and Cacho (2020) that the number of households in Northern Ilo-ilo and their status significantly affect the amount of trash they make. Therefore, an education campaign by the LGUs can help people learn to practice the 7Rs – rethink to get rid of waste in a way that is good for the environment and their health. For a successful implementation of solid waste management, there must be political will and commitment.

Refuse. Reegan (2023) noted that the 7Rs' refuse is likewise described as considering before purchasing or not at all. Consumers will likely buy fewer items that cause the least environmental damage. In addition, Abdullah stated that 'refuse' means evading extravagance or refraining from unnecessary buying. In this connection, Rebullida and Taguibao (2020) emphasized that one of the principles of the 7Rs is refuse, which means to consider the purchase of items if unnecessary or excessive. Several city societies, non-government organizations, and local government units must advocate for this 7Rs practice to decrease the problems such as dumping in landfills and open dump sites, which can cause environmental degradation. The same is likewise stated in the study of Govani et al. (2021) on new-generation technologies for solid waste management. They emphasized that refusing is the second thing people can do after rethinking. Buying essential products is unavoidable, but people can refuse to purchase items with over-packaging or decorations to minimize waste.

Moreover, the study of Akala (2021) stressed that the 7Rs' refuse could be utilized as one of the waste management strategies to transform banana waste into an economic resource. However, more is needed to know why applying 7Rs to banana waste remains minimal. Thus, invoking disposal as a banana waste management strategy is retrogressive and perpetuates environmental degradation, and retard the welfare of Kenyan banana farmers.

Meanwhile, the findings of Tupas and Cacho (2020) acknowledged that a robust waste management program that is run well is good for the environment and people's health. For example, plastics are being banned in almost all cities and towns in Northern Ilo-ilo. Eco-friendly materials are being used instead. People are informed to bring their own bags to the market to practice the 7Rs' refuse principle. On the other hand, Bagui and Arellano (2021) noted that the anti-plastic ordinance in Batangas City says people cannot use plastic or Styrofoam. However, the ordinance has no cooperation and is not strictly observed enough among the people.

Reduce. Accordingly, Abdullah (2021) stated that the "reduce" principle calls for reusable products and a reduction in the number of utilized resources such as water and energy. Moreover, Reegan (2023) noted that some practices under the 7Rs' reduce principle include buying less, purchasing products with minimal or no packaging that lasts a long time, and borrowing instead of purchasing, donating, or selling unwanted items at home. In this connection, the study by Khalid, Ullah, and Umar (2022), they pointed out that traditional landfill, incineration, composting, and other practices are used for reducing solid waste. The most common approaches to reduce waste materials are treating and using the organic component of municipal solid waste in the past, have been anaerobic digestion and composting.

Tavill (2020) defined food waste as uneaten edible food primarily generated at the consumer level, either at or away from home. Given how complicated society is regarding food preferences, practices, and consumer awareness, it may be hard to reduce waste at home without help from technology and industry. From that point of view, companies

are already finding ways to store, preserve, and process food and improve packaging technology. Aside from how products are made, the industry can support technology to help consumers reduce food waste. For example, "connected homes" that use mobile apps, smart appliances, and e-commerce platforms are utilized to help with planning, inventory management, and cooking techniques can help reduce food waste at the consumer level.

Furthermore, the study of Mihai and Ingrao (2018) pointed out that proper management of bio-waste, which makes up the majority of municipal waste, is the key to sustaining a bio-economy in the near future. The amount of uncollected bio-waste by waste collectors is usually thrown away without control if it is not recovered through home composting as a means of waste reduction. Thus, home composting plays a crucial role in reducing the bio-waste losses through waste dumping across rural Romania.

Reuse. According to Los Angeles County Public Works (2023), the 7Rs' reuse can be readily implemented by repeatedly reusing an item. In other words, people can frequently reuse items for the same purpose. With enough creativity, they can also serve a new function. Some observable practices under this principle include bringing reusable bags when shopping, returning disposable bags to the grocery for recycling, using egg cartons to sprout seedlings before transplanting, reusing glass jars to store extra sauce or liquid, and reusing peanut butter or mayonnaise jars to store homemade cookies. In this connection, Abdullah (2021) stressed that people can apply the ‘reuse’ principle by using single items until they are worn out, as long as they are safe to use. He further added that 'reuse' is transferring a used product in good condition to another user, such as through a second-hand marketplace. It can help manufacturers by allowing them to maintain the quality of their equipment. At the same time, consumers get a low-cost and well-maintained used product. Practicing this principle will also save the environment by minimizing waste.

Moreover, farmers also practiced the reuse principle in Akala's (2021) study regarding managing banana waste. Occasionally, containers and sacks have been reused for grain and water storage without adequate sanitation, endangering crops, livestock, and human health and life. In addition, the reuse of banana waste was instrumental in establishing and maintaining vegetable, fruit, and tree nursery beds, which could benefit the horticultural industry.

Accordingly, the study of Park and Tucker (2017) explained the issues facing stakeholders regarding the reuse of construction waste in Australia. Their findings reveal that institutional barriers are caused by problems outside the construction industry, such as social, economic, and political barriers to change. Factors such as lack of interest and demand from clients, attitudes towards reuse practices, and training make it hard to use construction wastes proactively and sustainably. Above all, they argued that laws should be implemented better to ensure that all Australian states are required to reuse construction waste materials.

Repair. The 7 R's also include the word repair, which encourages people to restore items rather than discard and replace them. Almost always, repair is less expensive than purchasing new products with the same utility. This may entail sewing a button onto a blouse or repairing a bicycle so that a person can ride to work instead of driving. People tend to discard "broken" products without attempting to find a solution to restore their functionality (Anderson, 2021). Accordingly, Reegan (2023) emphasized that repair, as one of the 7Rs' principles, entails attempting to restore items before throwing them away. The common culture instilled in most of the human populace is labeled a "throwaway society" because more waste is in landfills. Discarding items that have the potential to be reused and recycled would harm the environment and requires more natural resources to reproduce new products. By participating in the "Repair Movement" and repairing objects, people can help conserve the planet's resources.

Abdullah (2021) also added that the ‘repair’ principle allows manufacturers to keep and use products for a much longer period of time. The “repair” principle also applies to consumers who own a product and keep it in good condition. These measures save money and benefit the environment in the long run. Furthermore, Bateman, Whiting, and Shine (2022) confirmed that it is essential to repair electronic devices. According to the article he wrote, a circular vision for the electronic waste sector will support the elimination of waste and it could generate up to $4.5 trillion in economic benefits by 2030. The article also emphasized that changing how people consume is fundamental to the solution and should be a top priority. In addition, they discovered that prolonging the lifespan of a smartphone from 2.5 years to 7 years results in carbon dioxide equivalent savings of approximately 100 kilograms.

Regift. The study by Gates and Wu (2018) highlighted that regifting is the concept of donating a gift or item you have received to a family member/friend or a charity. Regifting has many advantages, including reducing clutter, giving an item "a second chance," and assisting the environment by reducing waste. Like minimalism, veganism, and waste-free lifestyles, regifting has become environmentally responsible, sustainable, and increasingly popular. Creating a regifting store will not only simplify the process of regifting, but it will also generate funds for a worthy charity, such as St. Gabriel's School and Centre. At the same time, practicing this 7Rs' regift will help reduce environmental waste. The longevity and popularity of the concept will ensure this store's continued relevance and prosperity in the future.

Taylor and Street's (2023) study revealed that the high adoption of gifting is likely due to the Buy Nothing Project (BNP) organizations' product reuse convenience. Many also cited concern for the traditional pathways for product reuse in Australia as a reason for using the groups: two participants suggested that they are attempting to reduce the burden of solid waste on charity shops, and another remarked that "donating to a charity store can be a bit of a hassle at times." The BNP groups represent a potential remedy for the nonprofit sector's current economic and logistical constraints. Gifting also has emotional value for members, who are frequently more concerned that cherished but no longer needed items to find a "good home" and trust their neighbors to do so. Members also mentioned regifting things they had received from the group when their need for them

had passed. Thus, items may have multiple uses within the community. Frequently, the organizations are utilized to promote skills and educate regarding repurposing and recycling. One participant remarked that even damaged or torn items are taken and that they can observe "how people refashion things" or use items they would never have considered reusable.

Regift is one of the 7R's where giving a previously received gift to another person, sometimes under the pretense of a new gift is practiced. Regifting unused items instead of discarding them is advantageous for the environment because it reduces waste. Regifting also allows people to dispose of unwanted gifts by donating them to others. Recycling is commonly associated with disassembling and reassembling components into new products (Wikipedia, 2023). Moreover, Hyundai (2023) noted that "regifting" is giving another individual a previously loved pre-owned item to increase its value. It is one of 7R's practical concepts because it prevents items from being discarded in the trash. As "regifts," clothing, shoes, furniture, and electronic devices may be donated to charitable organizations. One can regift books and other items with sentimental value to members of your family and friends by wrapping and presenting them to loved ones.

Recycle. Reegan (2023) noted some observable recycling practices, such as reusing things back into the waste stream for something else, recycling used glass in road construction, melting plastics to make new products, and composting organic waste as fertilizers in the gardens. Accordingly, Tan, Ying, and Hamid (2021) noted that some types of single-use plastic wastes are nonclinical or nonhazardous and made from thermoplastic, such as polypropylene, and hence, the principle of 7Rs' recycling can be practiced. The findings of Chinchodkar and Jadhav (2018) revealed that 51% of urban MSW in India is organic matter, 18% is only recyclable of the MSW, and the rest is 31% inert waste. Among the various types of waste treatment methods, biodegradable, material recycling, and waste-to-energy (WTE) facilities are recognized as promising alternatives to overcome the waste generation problem and a potential source for reduction, revenue, reuse, and renewable energy.

Moreover, Coracero, Gallego, Frago, and Gonzales (2021) emphasized that RA 9003 (Ecological Solid Waste Management Act) mandates collecting only segregated waste. There shall be compostable, recyclable, non-recyclable, and remarkable waste-labeled containers. People are encouraged to create compost from waste to be used as fertilizer. They believe the solution to waste problems will begin at home. In effect, individuals who properly segregate could separate recyclables and other materials. Furthermore, the municipal waste collectors in Manila are responsible for disposing between 47.25 and 74.85 percent of their total recyclable wastes. In Metro Cebu, more households sold/gave recyclable wastes to door-to-door collectors, spanning between 27.88% and 64.86 % of the total recyclable wastes. In addition, homes in Southern Mindanao prioritized door-to-door collectors, with percentages ranging from 9.51 to 51.69 percent of their complete recyclable wastes. It can be seen that recycling centers had the lowest rate of being a priority for recyclable waste disposal. Recycling centers are better equipped to utilize this waste than municipal collectors.

Solid waste management based on demographic profile. This section of the paper discusses the different findings on problems and practices in waste management based on the demographic profile in terms of 1) age, 2) sex, 3) educational attainment of parents, and 4) family monthly income.

On age. Madrigal and Oracion (2017) emphasized that awareness, attitudes, and practices towards solid waste management were significantly related to age. This result, however, contradicted the results of Miner et al.'s (2020) study in Nigeria, indicating no correlation between the respondents' ages and their awareness levels of e-waste management and intention to participate. Meanwhile, in the study of Douti et al. (2017) on solid waste management challenges in urban areas of Ghana, their data demonstrated that most of their research respondents who encounter problems with household waste belong to the middle age groups from 41 to 50 years old.

Furthermore, Escario, Rodriguez-Sanchez, and Casaló (2020) highlighted in their study that age has something to do with the environmental attitudes and perceived effectiveness of recycling, reducing, and reusing (3Rs). They reported that Spanish residents aged over 17 years show a positive relationship between environmental attitudes and the five waste-related behaviors. Hence, a positive relationship between the perceived effectiveness of one's behavior (when nobody else acts pro-environmentally) and the five waste-related behaviors is also evident. The same was likewise affirmed in the study of Choon, Tan, and Chong (2017) on the perception of households about solid waste management issues in Malaysia. Their findings revealed a positive relationship between age and waste reduction behaviors. Their respondents confirmed that their lifestyle affected waste reduction. Almost half of the respondents responded that they lacked the knowledge to practice waste segregation.

However, the study of Laor et al. (2018) on the knowledge, attitude, and practice of municipal solid waste management among highland residents in Northern Thailand exposed that the issue must target young people less than 20 years old. This target group must obtain adequate knowledge and education on municipal solid waste management, which impacts their health and hygiene. Hence, the local government should prioritize these individuals to encourage knowledge acquisition and a positive attitude toward effective municipal solid waste management. Lastly, information campaigns on waste management and appropriate media are necessary for the target group.

On sex. The findings of Madrigal and Oracion (2017) also noted that sex showed no correlation with attitude or practice towards solid waste management. This result affirmed the statement of Miner et al.'s (2020) findings where it indicates no correlation between the respondents' sex and their awareness of e-waste management and intention to participate.

Furthermore, Douti et al. (2017) also noted that more women directly encounter household waste problems than men. The authors argue that their findings are consistent with the research established in solid waste management because they believe that women play a vital role in maintaining the household. Moreover, they also remarked that

household waste management is a woman's job in these countries because they are directly concerned with household chores.

The same was also substantiated in the study of Escario, Rodriguez-Sanchez, and Casaló (2020). They noted that sex has something to do with the environmental attitudes and perceived effectiveness of recycling, reducing, and reusing (3Rs). Regarding sociodemographic characteristics, their findings reveal that women engage more in these 3R behaviors. However, they emphasized that women exhibit more significant reducing and reusing but not recycling behaviors compared to men. Lastly, Laor et al. (2018) also reveal that females display a more positive attitude in practicing municipal solid waste management than males.

On educational attainment of parents. As Madrigal and Oracion (2017) emphasized, awareness, attitudes, and practices toward solid waste management were significantly related to educational level. Lim et al. (2017), observed that the 3Rs gap in action and practices on solid waste management is due to the residents' lack of education and awareness. According to Janmaimool (2017), people with bachelor's degree encounter problems in sustainable waste management than those with master's degree levels. The same is likewise evident in the study of Escario, Rodriguez-Sanchez, and Casaló (2020) as they articulated that highly educated people engage more in these 3R behaviors. It was also validated in the study of Choon, Tan, and Chong (2017), where they found that education level positively correlates to reuse and recycling behaviors.

On the contrary, a study conducted by Saguban (2020) found that educated or professional inhabitants made up most of those who engaged in improper waste disposal practice.

Meanwhile a study of Miner et al. (2020), reveals that there is no correlation between the respondents' current educational level and intention to participate in e-waste management. Similar findings was found in the study of Laor et al. (2018) which reveal that most respondents, regardless of their educational level, show a neutral attitude toward SW Management.

Family monthly income. The analysis of Chen, Bodirsky, Krueger, Mishra, and Popp (2020) suggested that richer developed countries continue to produce the most waste. This is due to the reason that per capita waste production and income are correlated. They predict that waste production will continue to increase and that unsustainable ways of dealing with waste, like putting it in landfills, will continue to dominate. The study of Nagpure (2019) underscored that per capita, illegally dumped municipal solid waste was found to be highest in the low socioeconomic status (61 kg), followed by middle socioeconomic status (4 kg) and high socioeconomic status (2.6–3.5 kg) neighborhoods. In summary, it was shown in his findings that households with a low socioeconomic status (SES) have the highest municipal solid waste (MSW) contribution, which leads to serious environmental problems.

Meanwhile, Kaza, Yao, Bhada-Tata, and Van Woerden (2018) noted that 3.40 billion tons of trash will be produced worldwide by the year 2050. They further claimed that generation of waste and income level generally have a positive correlation.

Accordingly, the findings of Madrigal and Oracion (2017) depicted a significant difference in knowledge, attitude, and behaviors in waste management in grouping students according to family background, religion, and monthly income. In the study of Saguban (2020), the results revealed that residents who are those in the middle-class level of economic status have poor waste segregation practices. The preceding results, however, contradicted the study of Miner et al. (2020), where their findings displayed no correlation between the respondents' family size, family income, marital status, and their current educational level and intention to participate in e-waste management.

Research Questions

The study aimed to identify the problems and practices in solid waste management of students at home.

Specifically, it sought to answer the following specific questions:

1. To what extent are the problems encountered by the students on solid waste management at home in terms of the following:
   1.1 insufficient sorting of SW;
   1.2 low awareness of proper SWM;
   1.3 poor dumping practices;
   1.4 poor coordination on proper SWM; and
   1.5 attitude?
2. To what extent are the practices of the students on solid waste management in terms of the 7R's (rethink, refuse, reduce, reuse, repair, regift, and recycle)?
3. Is there a significant relationship between problems and practices in solid waste management of students?
4. Is there a significant relationship between the profile of the students (age, sex, educational attainment of parents, and family monthly income) and the following:
   4.1 practices; and
   4.2 problems encountered?

Statement of the Null Hypotheses

H_{o1}: There is no significant relationship between problems and practices in solid waste management of students.
H_{o2}: There is no significant relationship between the profile of the students (age, sex, educational attainment of parents, and family monthly income) and the practices and problems encountered.

METHODOLOGY

Research design. The research utilized the descriptive-correlational survey. It is descriptive because it (a) identified the practices and problems encountered by students on waste management at home, (b) described the profile of the students, and (c) evaluated the outcomes of the practices of students on waste management at home. On the other hand, it is also correlational because the mentioned variables were correlated.

Research environment. The study was conducted at Negros Oriental State University (NORSU)–Pamplona Extension Campus at Sitio Tuwang, Barangay Poblacion, Municipality of Pamplona, Negros Oriental. NORSU is a public institution and one of the most prominent state universities with several satellite and extension campuses in Negros Oriental province. The Pamplona extension only offers the programs Bachelor of Science in Agriculture majors in Animal Science and Agronomy and Bachelor of Science in Forestry, respectively. The BS Agriculture and BS Forestry students came from urban, semi-urban, and rural areas. Hence, the data gathered were based on the respondents' perception of how they managed their waste at home.

Research respondents. The respondents of the study were the randomly selected first-year to fourth-year students from NORSU – Pamplona Extension. Of the 369 total population of the extension campus, only 169 students were considered as part of the study.

Course Program	Population	Sample
BS Agriculture	281	136
BS Forestry	88	33
	369	**169**

In identifying the sample respondents, the systematic sampling technique was used wherein every second student in the list was chosen as the respondents.

Research instruments. The study used a researcher-made questionnaire to determine the problems and practices of students in solid waste management at home. The questionnaire is composed of three parts.

Part I asked for the profile of the students according to age, sex, educational attainment of the parents, and family monthly income. Part II consisted of areas with corresponding indicators which determined the extent of problems encountered on solid waste management. Meanwhile, Part III determined the extent of practices on solid waste management. The researchers also read articles and publications regarding solid waste management in schools and the community and integrated significant items into the questionnaire.

The whole questionnaire was presented to three experts in the field of science for content validity and cross-checking if the items were aligned with the specific problems of the study. The researchers considered the experts' corrections and suggestions for the improvement of the questionnaire items.

Furthermore, the researchers conducted a dry-run to ensure item reliability. There were 30 selected students who served as the respondents. The Cronbach's Alpha Coefficient test identified the reliability of each item. This test would check if multiple-question Likert's scale surveys are reliable and would tell how closely related a set of test items are as a group. The test was treated and analysed to verify the internal consistency reliability of the items. Generally, a score of more than 0.70 alpha value is "acceptable". The results revealed the following Cronbach's Alpha Coefficients: 0.821 for insufficient sorting of SW; 0.922 for low awareness of proper SWM, 0.842 for poor dumping practices, 0.834 for poor coordination on proper SWM, 0.733 for attitude, and 0.898 for 7R's. These figures indicated that the items in every variable are reliable.

Research procedure. After the design hearing, the researchers incorporated all the corrections and recommendations of the panel members. A request letter to conduct the study was sent to the university president through the vice president for academic affairs of Negros Oriental State University Main Campus I. The signed and approved request was presented to the respective instructors of the students. During the distribution, the researchers explained to the students the purpose and importance of the research. The questionnaires were retrieved right after the students answered the questions.

Accordingly, the results were tallied, analysed, and interpreted using MS Excel software.

Statistical Treatment of the Data. The tools used by the researcher in analysing the data are the following:

***Weighted mean*.** This was used in getting the extent of students' practices and problems on waste management at home.

Spearman Rank Correlation Coefficient. This was utilized to identify the relationship between the (a) practices and the problems encountered by the students on waste management; (b) profile (age, educational attainment of parents, and family monthly income) of the students and their practices on waste management at home; and (c) profile (age, educational attainment of parents, and family monthly income) of the students and their problems encountered on waste management at home. This test was selected since one of the data was measured in ordinal scale.

Chi-square. This was used to identify the relationship between the (a) profile (sex) of the students and their practices on waste management at home; and (c) profile (sex) of the students and their problems encountered on waste management at home. This test was selected since sex is a nominal scale.

To identify the degree of relationship between two variables, the researcher applied the following descriptions (Statistical Correlation, 2009):

	Value of r	Strength of Relationship
Between	± 0.50 to ± 1.00	± strong relationship
Between	± 0.30 to ± 0.49	± moderate relationship
Between	± 0.10 to ± 0.29	± weak relationship
Between	± 0.01 to ± 0.09	± very weak relationship

The following interpretations were utilized by the researcher to describe the extent of problems encountered by the students on solid waste management at home:

Verbal Description	Level of Problems	Explanation
Very Serious Problem	Very High	The problems are encountered by the students 81% -100% of the time
Serious Problem	High	The problems are encountered by the students 61% - 80% of the time
Moderate Problem	Moderate	The problems are encountered by the students 41% -60% of the time
Minor Problem	Low	The problems are encountered by the students 21% - 40% of the time
Not at all a problem	Very Low	The problems are encountered by the students 1% - 20% of the time

The following interpretations were applied by the researcher to describe the extent of practices of the students on solid waste management at home:

Verbal Description	Level of Practices	Explanation
Always	Very High	The practices are done by the students 81% - 100% of the time
Often	High	The practices are done by the students 61% - 80% of the time
Sometimes	Moderate	The practices are done by the students 41% - 60% of the time
Rarely	Low	The practices are done by the students 21% - 40% of the time
Never	Very Low	The practices are done by the students 1% - 20% of the time

Scope of the study. This research is focused on determining the extent of problems encountered by the students on solid waste management at home, their extent of practice on solid waste management at home, the demographic profile of the students, and how these variables correlate with each other. The data gathered were utilized to assess and analyze the positive and negative practices and problems students face in managing their solid waste at home. The respondents are the first-year to fourth-year BS Agriculture and BS Forestry students from Negros Oriental State University - Pamplona Extension.

Limitations of the study. The researcher assumes honesty by the respondents in answering the questionnaire. Other factors, which are out of her control, such as the student's attitude, physical, and emotional conditions while answering the questionnaire were also set as limitations of the study. The different settings of their homes where the study was focused might also affect their responses; hence, they were considered as a limitation too.

RESULTS

Table 1.1
Extent of Problems Encountered by the Students on Solid Waste Management at Home in Terms of Insufficient Sorting of SW (n = 169)

	Problems	$w\bar{x}$	VD	EoP
1.	Biodegradable wastes are mixed with non-biodegradable wastes during collection.	3.61	SP	H
2.	Various types of waste are dumped in vacant lots.	3.51	SP	H
3.	Recyclable and non-recyclable household waste materials end up being incinerated or dumped in landfills.	3.43	SP	H
4.	Unavailability of recycling facilities.	3.38	MP	M
5.	Limited space to store household recyclable materials.	3.11	MP	M
6.	Only one trash bin is available at home.	2.93	MP	M
	Composite	3.33	MP	M

Legend:	Scale	Verbal Description (VD)	Extent of Problem (EoP)
	4.21 – 5.00	Very Serious Problem (VSP)	Very High (VH)
	3.41 – 4.20	Serious Problem (SP)	High (H)
	2.61 – 3.40	Moderate Problem (MP)	Moderate (M)
	1.81 – 2.60	Minor Problem (MP)	Low (L)
	1.00 – 1.80	Not at all a Problem (NaP)	Very Low (VL)

Table 1.2

Extent of Problems Encountered by the Students on Solid Waste Management at Home in Terms of Low Awareness of Proper SWM (n = 169)

Indicators	$w\bar{x}$	VD	EoP
1. Lack of awareness in the proper disposal of hazardous waste.	3.49	SP	H
2. Lack of awareness in segregating biodegradable, non-biodegradable, and hazardous waste.	3.45	SP	H
3. Lack of knowledge on the effects of municipal solid waste (MSW) on public health and environment.	3.43	SP	H
4. Improper collection of waste by waste collectors due to the lack of knowledge in solid waste management.	3.41	SP	H
5. Uncollected wastes due to the lack of knowledge in waste segregation.	3.40	MP	M
Composite	3.44	SP	H

Legend:	Scale	Verbal Description (VD)	Extent of Problem (EoP)
	4.21 – 5.00	Very Serious Problem (VSP)	Very High (VH)
	3.41 – 4.20	Serious Problem (SP)	High (H)
	2.61 – 3.40	Moderate Problem (MP)	Moderate (M)
	1.81 – 2.60	Minor Problem (MP)	Low (L)
	1.00 – 1.80	Not at all a Problem (NaP)	Very Low (VL)

Table 1.3

Extent of Problems Encountered by the Students on Solid Waste Management at Home in Terms of Poor Dumping Practices (n = 169)

Problems	$w\bar{x}$	VD	EoP
1. Drainage obstruction in households due to improper waste disposal.	3.51	SP	H
2. Scattering of wastes outside the house due to stray cats or dogs rummaging over garbage bins.	3.49	SP	H
3. Possibility of soil and water contamination due to a large amount of solid waste dumped in one place.	3.46	SP	H
4. Backyard became a breeding ground for insects due to open dumping.	3.41	SP	H
5. Recyclable materials ending up in dumpsites.	3.35	MP	M
6. Offensive odor from dumpsites in our locality.	3.34	MP	M
Composite	3.43	SP	H

Legend:	Scale	Verbal Description (VD)	Extent of Problem (EoP)
	4.21 – 5.00	Very Serious Problem (VSP)	Very High (VH)
	3.41 – 4.20	Serious Problem (SP)	High (H)
	2.61 – 3.40	Moderate Problem (MP)	Moderate (M)
	1.81 – 2.60	Minor Problem (MP)	Low (L)
	1.00 – 1.80	Not at all a Problem (NaP)	Very Low (VL)

Table 1.4
Extent of Problems Encountered by the Students on Solid Waste Management at Home in Terms of Poor Coordination on Proper SWM (n = 169)

Indicators	$w\bar{x}$	VD	EoP
1. Laws and regulations that deal with the operations of landfills are often taken for granted.	3.56	SP	H
2. Laws about waste management are unclear to the citizens.	3.55	SP	H
3. Local authorities are very lenient when it comes to the regulation of toxic substances.	3.44	SP	H
4. Public involvement is not encouraged in creating solid waste management policies.	3.41	SP	H
5. *"No segregation, no collection policy"* is not strictly followed by household members.	3.39	MP	M
6. Ecological Solid Waste Management Act of 2000 (RA 9003) is not implemented within the municipalities.	3.29	MP	M
Composite	3.44	SP	H

Legend:	Scale	Verbal Description (VD)	Extent of Problem (EoP)
	4.21 – 5.00	Very Serious Problem (VSP)	Very High (VH)
	3.41 – 4.20	Serious Problem (SP)	High (H)
	2.61 – 3.40	Moderate Problem (MP)	Moderate (M)
	1.81 – 2.60	Minor Problem (MP)	Low (L)
	1.00 – 1.80	Not at all a Problem (NaP)	Very Low (VL)

Table 1.5
Extent of Problems Encountered by the Students on Solid Waste Management at Home in Terms of Attitude (n = 169)

Indicators	$w\bar{x}$	VD	EoP
1. I believe burning of waste can be bad for my health and the health of household members.	3.66	SP	H
2. I keep our surroundings clean to prevent infectious diseases and potential breeding grounds of insects caused by improper disposal of solid waste.	2.98	MP	M
3. I do not have time to participate in solid waste management drive.	2.96	MP	M
4. I find solid waste management as an extra hassle to be done at home.	2.91	MP	M
5. I am willing to practice solid waste management.	2.85	MP	M
Composite	3.07	MP	M

Legend:	Scale	Verbal Description (VD)	Extent of Problem (EoP)
	4.21 – 5.00	Very Serious Problem (VSP)	Very High (VH)
	3.41 – 4.20	Serious Problem (SP)	High (H)
	2.61 – 3.40	Moderate Problem (MP)	Moderate (M)
	1.81 – 2.60	Minor Problem (MP)	Low (L)
	1.00 – 1.80	Not at all a Problem (NaP)	Very Low (VL)

Table 2.1
Extent of Practices of the Students on Solid Waste Management in Terms of the 7R's – Rethink (n = 169)

Indicators	$w\bar{x}$	VD	EoP
1. I dispose empty bottles of herbicides, insecticides, and pesticides in the hazardous waste container.	3.79	O	H
2. I separate food waste and vegetable scraps from non-biodegradable wastes after food preparation.	3.72	O	H
3. I only buy plastic containers that are recyclable.	3.60	O	H
4. I practice composting at home to cut down the amount of trash in a landfill.	3.46	O	H
5. I immediately throw away plastic containers from fast foods even when they are recyclable.	2.95	S	M
Composite	3.50	O	H

Legend:	Scale	Verbal Description (VD)	Extent of Practices (EoP)
	4.21 – 5.00	Always (A)	Very High (VH)
	3.41 – 4.20	Often (O)	High (H)
	2.61 – 3.40	Sometimes (S)	Moderate (M)
	1.81 – 2.60	Rarely (R)	Low (L)
	1.00 – 1.80	Never (N)	Very Low (VL)

Table 2.2
Extent of Practices of the Students on Solid Waste Management in Terms of the 7R's – Refuse (n = 169)

Indicators	$w\bar{x}$	VD	EoP
1. I prefer to use eco bags when doing groceries in supermarkets.	3.53	O	H
2. I buy products that do the least harm to the environment.	3.44	O	H
3. I bring my own plastic shopping bags when buying in the public market.	3.18	S	M
4. I do not request plastic spoons and forks when ordering food online.	2.99	S	M
5. I request a "no plastic ware" in take-outs from fast food chains whenever I decided to eat at home.	2.91	S	M
Composite	3.21	S	M

Legend:	Scale	Verbal Description (VD)	Extent of Practices (EoP)
	4.21 – 5.00	Always (A)	Very High (VH)
	3.41 – 4.20	Often (O)	High (H)
	2.61 – 3.40	Sometimes (S)	Moderate (M)
	1.81 – 2.60	Rarely (R)	Low (L)
	1.00 – 1.80	Never (N)	Very Low (VL)

Table 2.3
Extent of Practices of the Students on Solid Waste Management in Terms of the 7R's – Reduce (n = 169)

Indicators	$w\bar{x}$	VD	EoP
1. I apply the practices in proper waste disposal and the alternatives to reduce them.	3.93	O	H
2. I have separate garbage bins for biodegradable, non-biodegradable and hazardous waste.	3.59	O	H
3. I bury biodegradable wastes underground.	3.36	S	M
4. I prefer to order products online that uses a lot of bubble wraps to secure my package.	3.15	S	M
5. I prefer to order products online that uses brown box packaging instead of bubble wraps.	2.91	S	M
Composite	3.39	S	M

Legend:	Scale	Verbal Description (VD)	Extent of Practices (EoP)
	4.21 – 5.00	Always (A)	Very High (VH)
	3.41 – 4.20	Often (O)	High (H)
	2.61 – 3.40	Sometimes (S)	Moderate (M)
	1.81 – 2.60	Rarely (R)	Low (L)
	1.00 – 1.80	Never (N)	Very Low (VL)

Table 2.4
Extent of Practices of the Students on Solid Waste Management in Terms of the 7R's – Reuse (n = 169)

Indicators	$w\bar{x}$	VD	EoP
1. I reuse plastic food containers, ice cream containers, glass jars, and plastic jars to store leftover foods, frozen foods, and food ingredients.	3.94	O	H
2. I collect and reuse plastic shopping or grocery bags.	3.92	O	H
3. I reuse empty 10-L water containers as gardening pots or water buckets.	3.90	O	H
4. I use products that prioritize reuse, recycle, or use environmentally friendly materials.	3.82	O	H
5. I immediately throw away empty rubbing alcohol bottles instead of refilling them.	2.98	S	M
Composite	3.71	O	H

Legend:	Scale	Verbal Description (VD)	Extent of Practices (EoP)
	4.21 – 5.00	Always (A)	Very High (VH)
	3.41 – 4.20	Often (O)	High (H)
	2.61 – 3.40	Sometimes (S)	Moderate (M)
	1.81 – 2.60	Rarely (R)	Low (L)
	1.00 – 1.80	Never (N)	Very Low (VL)

Table 2.5

Extent of Practices of the Students on Solid Waste Management in Terms of the 7R's – Repair (n = 169)

Indicators	$w\bar{x}$	VD	EoP
1. I tried to have our television repaired first rather than throwing it out and getting a replacement.	4.24	A	VH
2. I mend my ripped jeans or holes in clothes instead of disposing of it right away.	4.04	O	H
3. I tried to have my smartphone fixed first before deciding to buy a new one to reduce e-waste.	3.97	O	H
4. I prefer our old electric stand fan to have it repaired instead of buying a new one to reduce e-waste.	3.49	O	H
5. I have my computer or laptop repaired as opposed to purchasing a new one.	3.46	O	H
Composite	3.84	O	H

Legend:	Scale	Verbal Description (VD)	Extent of Practices (EoP)
	4.21 – 5.00	Always (A)	Very High (VH)
	3.41 – 4.20	Often (O)	High (H)
	2.61 – 3.40	Sometimes (S)	Moderate (M)
	1.81 – 2.60	Rarely (R)	Low (L)
	1.00 – 1.80	Never (N)	Very Low (VL)

Table 2.6

Extent of Practices of the Students on Solid Waste Management in Terms of the 7R's – Regift (n = 169)

Indicators	$w\bar{x}$	VD	EoP
1. I give my old stuffed toys to the younger family members instead of throwing them away.	3.89	O	H
2. I keep old gift wrappers in good condition to be used on wrapping gifts.	3.83	O	H
3. I donate my old clothes to less fortunate families.	3.80	O	H
4. I give "unused things" at home, which are brand new or in good condition to friends.	3.66	O	H
5. I regift old books, magazines, and comics instead of disposing or burning them.	3.43	O	H
Composite	3.72	O	H

Legend:	Scale	Verbal Description (VD)	Extent of Practices (EoP)
	4.21 – 5.00	Always (A)	Very High (VH)
	3.41 – 4.20	Often (O)	High (H)
	2.61 – 3.40	Sometimes (S)	Moderate (M)
	1.81 – 2.60	Rarely (R)	Low (L)
	1.00 – 1.80	Never (N)	Very Low (VL)

Table 2.7

Extent of Practices of the Students on Solid Waste Management in Terms of the 7R's – Recycle (n = 169)

Indicators	$w\bar{x}$	VD	EoP
1. I throw empty plastic containers in a recycling bin.	3.80	O	H
2. I collect organic wastes for composting to be used as fertilizers in the garden.	3.76	O	H
3. I participate in recycling campaigns and waste segregation programs to promote waste management organized by the local government if it is available.	3.28	S	M
4. I deliver our household recyclables to the recycling facilities/establishments.	3.09	S	M
5. I dispose e-waste such as cooling equipment, computers and telecommunications equipment, electronic devices and solar panels, TVs, monitors, screens, and LED bulbs by giving it to a certified e-waste recycler.	3.09	S	M
Composite	3.41	O	H

Legend:	Scale	Verbal Description (VD)	Extent of Practices (EoP)
	4.21 – 5.00	Always (A)	Very High (VH)
	3.41 – 4.20	Often (O)	High (H)
	2.61 – 3.40	Sometimes (S)	Moderate (M)
	1.81 – 2.60	Rarely (R)	Low (L)
	1.00 – 1.80	Never (N)	Very Low (VL)

Table 3

Relationship between the Problems and Practices in Solid Waste Management of Students (n = 169)

Students' Problems at Home and Practices of 7R's	r_s	p-value	Decision	Remark
Rethink	0.286	0.001	Reject H_{o1}	Significant
Refuse	0.328	0.000	Reject H_{o1}	Significant
Reduce	0.304	0.000	Reject H_{o1}	Significant
Reuse	0.291	0.000	Reject H_{o1}	Significant
Repair	0.146	0.086	Fail to reject H_{o1}	Not significant
Regift	0.215	0.011	Reject H_{o1}	Significant
Recycle	0.240	0.004	Reject H_{o1}	Significant

Level of significance = 0.05

Legend:	Value of r	Strength of Relationship (Statistical Correlation, 2009)
	Between ± 0.50 to ± 1.00	± strong relationship
	Between ± 0.30 to ± 0.49	± moderate relationship
	Between ± 0.10 to ± 0.29	± weak relationship
	Between ± 0.01 to ± 0.09	± very weak relationship

Table 4

Relationship between the Profile of the Students and Their Problems and Practices in Solid Waste Management of Students (n = 169)

Variables	r_s	p-value	Decision	Remark
Problems Encountered and…				
Age	0.083	0.329	Fail to reject H_{o2}	Not significant
Fathers' Educational Attain.	0.051	0.549	Fail to reject H_{o2}	Not significant
Mothers' Educational Attain.	0.177	0.037	Reject H_{o2}	Significant
Family Monthly Income	0.021	0.811	Fail to reject H_{o2}	Not significant
	x^2	p-value		
Sex	3.26	0.138	Fail to reject H_{o2}	Not significant
Practices and…	r_s	p-value		
Age	0.151	0.076	Fail to reject H_{o2}	Not significant
Fathers' Educational Attain.	0.066	0.437	Fail to reject H_{o2}	Not significant
Mothers' Educational Attain.	0.222	0.008	Reject H_{o2}	Significant
Family Monthly Income	0.031	0.719	Fail to reject H_{o2}	Not significant
	x^2	p-value		
Sex	0.480	0.788	Fail to reject H_{o2}	Not significant

Level of significance = 0.05

Legend:

Value of r	**Strength of Relationship** (Statistical Correlation, 2009)
Between ± 0.50 to ± 1.00	± strong relationship
Between ± 0.30 to ± 0.49	± moderate relationship
Between ± 0.10 to ± 0.29	± weak relationship
Between ± 0.01 to ± 0.09	± very weak relationship

DISCUSSION

Table 1.1 displays the data on the extent of problems encountered by the students on solid waste management at home in terms of insufficient sorting of SW. It was revealed that the extent of problems encountered in this area is "moderate" with composite $w\bar{x}$ = 3.33.

Specifically, the data pointed out that the most common problem encountered by the students is that biodegradable wastes are mixed with non-biodegradable wastes during collection ($w\bar{x}$ = 3.61). The result indicated that students have observed improper sorting of waste during garbage collection. The current finding is similar to the result of the study conducted by Ibañez and Torrentira (2022), where each household collected

their wastes in a single container, wherein biodegradables, non-biodegradables, and all other wastes were mixed because people did not bother to segregate them.

Moreover, the students also encountered problems such as various wastes dumped in vacant lots ($w\bar{x}$ = 3.51) and recyclable and non-recyclable household waste materials that are incinerated or dumped in landfills ($w\bar{x}$ = 3.43). The results indicated that dumping various wastes in vacant lots, landfills, and incinerating recyclable and non-recyclable household waste materials are common problems directly observed at home, which can negatively affect the environment and human health.

The current findings are likewise evident in the conclusions of Domingo and Manoos (2017), which found that in most households in barangays where garbage is not collected, the residents dispose of their wastes improperly by burning, burying, or tossing these into adjacent vacant lots. Furthermore, it is also manifested in the study of Kaza et al. (2018) where they observed that only 7% of the bulk of waste generated is dumped in sanitary landfills.

The table also exhibits that students encountered problems with insufficient sorting of SW due to the following reasons such as the unavailability of recycling facilities ($w\bar{x}$ = 3.38), limited space to store household recyclable materials ($w\bar{x}$ = 3.11), and only one trash bin available at home ($w\bar{x}$ = 2.93). The findings revealed that improper waste sorting is a prevalent problem that students can immediately notice at home. These are likely due to the lack of recycling facilities, limited space to keep recyclables, and only one trash can be available at home.

Similar findings are observed in the study of Nguyen and Tan (2020) which revealed that residents in Bayog, Los Baños, and Laguna are also facing problems on unsegregated solid wastes due to the absence of Materials Recovery Facilities (MRFs). Furthermore, the results are similar to the findings of Coracero et al. (2021) who emphasized that the root causes of solid waste management issues, such as a lack of space for waste disposal, are believed to increase solid waste problems. It is evident in the data that due to deficiency of community involvement, insufficient dumpsite facilities, and dumping of mixed wastes anywhere solid waste management still remain as a pressing concern in the study site.

Presented in Table 1.2 is the data on the extent of problems encountered by the students on solid waste management at home in terms of low awareness of proper SWM. The data revealed that the extent of problems encountered in this area is “high,” as indicated in the composite weighted mean of 3.44.

It can be observed that students agreed that the extent of problem they encountered in indicators 1 to 4 is “high” as shown in its weighted means ranging from 3.41 to 3.49. These include: (a) lack of awareness in proper disposal of hazardous wastes; (b) lack of awareness in segregating biodegradable, non-biodegradable, and hazardous waste; (c) insufficient knowledge on the effects of municipal solid wastes; and (d) improper collection of wastes due to lack of knowledge in SWM respectively. The results reflected that Philippine LGUs lacked SWM capability, awareness, and

enforcement which may cause socioeconomic and environmental problems and health vulnerabilities without proper understanding and awareness of SWM.

Chadar and Keerti (2017) confirmed in their study that environmental problems on pollution, increasing levels of carbon dioxide and methane and rising concerns on health associated problems are caused by solid waste contaminants which are disposed anywhere.

Khalid et al. (2022) presented a similar observation that improper waste disposal is one of the most pressing environmental issues that lead to other problems such as air pollution, water pollution, and soil contamination which can change the ecosystem and threaten human health.

Table 1.3 reveals the data on the extent of problems encountered by the students on solid waste management at home in terms of poor dumping practices. It exposed that generally the extent of problems encountered in this area is “high,” with a composite weighted mean value of 3.43.

It pointed out that students encountered “high” extent of problems with drainage obstruction in households due to improper waste disposal ($w\bar{x}$ = 3.51). The result implied that flooding, erosion, and other environmental problems will likely happen when drainages are obstructed due to solid wastes. The current finding is likewise parallel to the study of Chand (2019) where he emphasized that substances like polythene bags and other wastes clog drain pipes, paralyzing the drainage system.

In addition, the data also stipulated that students encountered the following problems in “high” extent such as: (a) scattering of wastes outside the house due to stray cats or dogs rummaging over garbage bins ($w\bar{x}$ = 3.49); (b) soil and water contamination due to a large amount of solid waste dumped in one place ($w\bar{x}$ = 3.46); and (c) backyard became a breeding ground for insects due to open dumping ($w\bar{x}$ = 3.41). Furthermore, it can also be seen from the data that students had “moderate” problems on recyclable materials ending up in dumpsites ($w\bar{x}$ = 3.35), and offensive odor from dumpsites in our locality ($w\bar{x}$ = 3.34). The results implied that scattered waste, contaminated soil due to SW, backyards becoming insect breeding grounds due to open dumping, recyclable materials ending up in landfills, and offensive odors from landfills can cause environmental pollution, waste of resources, and respiratory problems.

The results coincide to the study of Domingo and Manoos (2017), in which they reported that dumping in vacant lots results in an insect breeding ground, an eyesore to the general public, and produce unpleasant smells. They added that dumping solid wastes in rivers, streams, and oceans in the coastal barangays causes terrible odor and water pollution which hindered fishing and other water activities.

According to Kaza et al. (2018), improperly managed waste pollutes the world's oceans, clogs sewers, causes flooding and transmits diseases through vector breeding. Additionally, 1.6 billion tons of carbon dioxide (CO_2) equivalent greenhouse gas

emissions (GHG) were generated from solid waste treatment and disposal, primarily from open dumping and landfills.

Table 1.4 provides the data on the extent of problems encountered by the students on solid waste management at home in terms of poor coordination on proper SWM. The table depicts that the extent of problems encountered in this area is “high,” as indicated in the composite weighted mean value of 3.44. The data exposed that the students found out that: a) laws and regulations that deal with the operations of landfills are often taken for granted ($w\bar{x}$ = 3.56); b) laws about waste management are unclear to the citizens ($w\bar{x}$ = 3.55); c) local authorities are very lenient when it comes to the regulation of toxic substances ($w\bar{x}$ = 3.44); and d) public involvement is not encouraged in creating solid waste management policies ($w\bar{x}$ = 3.41) are serious problems.

Since the Ecological Solid Waste Management Act of 2000 (RA 9003) mandates that LGUs must promote and facilitate public participation in developing and implementing integrated solid waste management plans, the results indicated that local government bodies must implement this RA.

The findings of Park and Tucker (2017) and Bungau et al. (2018) are in agreement to the results of the current study when they emphasized that poor information on reducing waste requires specific and comprehensive legislation. They agreed that there must be clear roles and duties and education/awareness campaigns for the citizens to become knowledgeable in the implementation of laws, policies, and procedures relevant to proper SWM.

Furthermore, the students found out that the No segregation, no collection policy is not strictly followed by household members ($w\bar{x}$ = 3.39) and the Ecological Solid Waste Management Act of 2000 (RA 9003) is not implemented within the municipalities ($w\bar{x}$ = 3.29) and these pose “moderate” problems in their locality. The results indicated that appropriate waste segregation is essential because it reduces the quantity of waste sent to landfills and incinerators, preserves natural resources and saves energy. In addition, the results suggested that local government units are predominantly responsible for implementing and enforcing RA 9003 within their respective jurisdictions.

The current results are evident in the study of Nguyen and Tan (2020), which emphasized that rural regions need for more local policies on solid waste management for its proper operation. This is also congruent to the findings of Galarpe (2017) as he pointed out that the local government entities failed to competently implement RA 9003 due to the absence of institutional waste management structures because of insufficient funds. It is notable from the result that solid waste pollutants and the production of large amounts of trash without an effective waste management system could worsen the problem on SWM if strict regulations governing the treatment and disposal of solid wastes are not properly implemented and regulated.

Table 1.5 discloses the data on the extent of problems encountered by the students on solid waste management at home in terms of attitude. The data suggested that the extent of problems encountered in this area is "moderate" as indicated in the

composite weighted mean value of 3.07. The students found out that burning of waste can be bad for the health and the health of household members ($w\bar{x}$ = 3.66) a serious problem. The result suggested that burning waste may release hazardous chemicals and pollutants into the air, harming human health and the environment. Hence, it is crucial to dispose waste effectively by following proper segregation and disposal procedures. The result is in line with the statement of Chen et al. (2020), which stressed that the open burning of wastes produces substantial amounts of dangerous air pollutants that could seriously harm human health, particularly in developing countries.

Moreover, the students found most of the indicators in this area as “moderate’ problem with weighted means of 2.85 to 2.95. These include: (a) keeping the surroundings clean;(b) lack to of time to participate in solid waste management drive; (c) solid waste management as an extra hassle; and (d) willingness to practice solid waste management. The findings demonstrated that sustaining a clean environment is essential for preserving a healthy environment and preventing pollution. Nevertheless, some students may lack the time or means to participate in solid waste management campaigns. Others may view solid waste management as an additional burden and be unwilling to implement it.

The current findings likewise are in consonance to the findings of Wang et al., (2021) when they claimed that people’s inefficient solid waste management is due to lack of time to engage in solid waste segregation campaign, absence of punishment and incentive mechanisms, lack of comprehensive waste management services which resulted to improper solid waste disposal. This finding is parallel to the result of the correlational study of Formarejo et al. (2022) as they affirmed that participation strongly correlates with full awareness of RA 9003, level of resources, and level of enforcement adhering to RA 9003.

Table 2.1 presents the data on the extent of practices of the students on solid waste management in terms of the 7R's - rethink. The data exposed that the extent of practices in this area is "high," as indicated in the composite weighted mean value of 3.50. It suggested that students rethink their consumption practices to make more sustainable decisions in solid waste management.

Moreover, the current result is a reflection that the students are aware that empty bottles of herbicides, insecticides and pesticides are hazardous so disposing them to the hazardous waste container is their utmost priority as indicated in its weighted mean value of 3.79. The findings suggested that students are aware of the risks associated with these types of waste and are taking steps to dispose of them correctly. According to the Food and Agriculture Organization (FAO) of the United Nations (2023), empty pesticide bottles constitute the bulk of hazardous wastes which must be emptied into pesticide containers provided by established collection program for safety purposes.

Meanwhile, it is also apparent that the extent of students' practice in separating food waste and vegetable scraps from non-biodegradable wastes after food preparation ($w\bar{x}$ = 3.72) is “high”. The result suggested that students have a great practice on waste

segregation after food preparation. This practice is beneficial because it reduces the amount of SW sent to landfills and incinerators. The current result agrees to the findings of Goswami (2023), in which respondents were sometimes inclined to separate these household food wastes into separate bins for dry and wet wastes, respectively. In addition, most of them occasionally tended to separate these wastes into other categories, such as biodegradable, non-biodegradable, and hazardous. However, some of his respondents never exhibited similar practices to separate recyclable, toxic/hazardous, compostable, organic, soiled, and food waste. These findings emphasized the need for improved awareness and knowledge to implement the household MSW segregation process correctly.

Furthermore, the extent of the students' practice in buying recyclable plastic containers and the practice of composting at home is also “high,” as observed in its mean value of 3.60. According to the findings, students who purchased recyclable plastic containers can positively impact the environment. Reusable and recyclable plastic containers reduce the plastics ending up in landfills or the ocean. Parkar et al. (2021) findings stipulated that plastic has become a vital component of daily life because of its adaptability, leading to various uses. However, because it is not biodegradable, the issue occurs when it does not break down in the natural environment.

On the other hand, the extent to which the students practice composting at home is also "high," as observed in its mean value of 3.46, respectively. The result implied that students have good practice in composting at home, which can also aid in reducing landfill waste and greenhouse gas emissions. Hence, this can impact a positive effect on the environment. The current finding matches to the findings presented in the study of Domingo and Manoos (2017), which stressed that composting biodegradable waste is a good practice in reducing these types of wastes.

Meanwhile, the result also reflected that the students’ extent of practice in throwing away of plastic containers from fast food is “moderate”. The result implied that throwing away food containers from fast food, even moderately, can still have negative environmental impacts and may contribute to littering and accumulated waste generation. Gallego-Schmid et al. (2019) reported that at present, there is a rising global takeout food consumption. Due to their limited recyclability, single-use containers used for takeout food are a significant source of waste and damaging environmental impacts. In order to reduce the adverse environmental effects of fast-food containers, it is crucial to pinpoint the most effective alternatives and opportunities for improvement. Therefore, it is essential to rethink the consequences of solid waste mismanagement and minimize the use of plastic whenever possible to help lessen the problem.

Shown in table 2.2 is the data on the extent of practices of the students on solid waste management in terms of the 7R's - refuse. The data suggested that the extent of practices in this area is "moderate" as indicated in the composite weighted mean value of 3.21. The results suggested that students should make careful purchasing decisions and establish standards to simplify refusing waste.

It is evident from the result that the students are responsible in taking care of their environment as manifested in their “high” extent of practice in using eco bags when doing groceries in supermarkets ($w\bar{x}$ = 3.53) and in buying products that do the least harm to the environment ($w\bar{x}$ = 3.44). The results implied that students are highly aware of the eco-bag's effectiveness and that purchasing environmentally friendly products is a great practice to reduce their carbon footprint.

Moreover, the extent of the students' practice in bringing their own plastic shopping bags when buying in the public market ($w\bar{x}$ = 3.18); not requesting plastic spoons and forks when ordering food online ($w\bar{x}$ = 2.99), and requesting a "no plastic ware" in take-outs from fast food chains whenever they decided to eat at home ($w\bar{x}$ = 2.91) are “moderate”. The results implied that these practices, although practiced moderately, can still help reduce the amount of plastic waste in landfills and dumpsites, which can cause adverse effects on the environment. However, increased awareness of the 7Rs' refuse among students needs to be improved.

These findings are likewise evident in the study of Tupas and Cacho (2020), when they disclosed that inhabitants in almost all cities and towns in Northern Ilo-ilo are using eco-friendly materials and that people are informed to bring their own eco bags when going to market since the use of plastics in their place is banned.

Table 2.3 depicts the data on the extent of practices of the students on solid waste management in terms of the 7R’s - reduce. It revealed that the extent of practice in this area is “moderate” with composite weighted mean of 3.39. The findings showed that the limited awareness of the 7Rs among students is to blame for the moderate level of practice of 'reduce' among students.

This is in congruence to the findings of Domingo and Manoos (2017), who found that majority of the residents in Boac, Marinduque are separating their biodegradable and non-biodegradable wastes but there are still others who are not practicing such. The study of Mihai and Ingrao (2018) pointed out that appropriate waste management is the key to sustaining a bio-economy in the future and in protecting the environment. According to Coracero et al. (2021), RA 9003 on Ecological Solid Waste Management Act emphasized that only segregated wastes can be collected by the garbage collectors and that people should dispose their garbage to the proper containers which are appropriately labeled as compostable, recyclable, not recyclable, or particular waste.

Additionally, the extent of students’ practice in burying biodegradable wastes underground ($w\bar{x}$ = 3.36) is moderate. The result implied that students who bury biodegradable wastes underground in a moderate manner mean that they are not burying too much waste, leading to soil pollution and other environmental problems. Concerning this, Ali et al. (2021) highlighted the practice of disposing of biodegradable garbage by burying it in landfills as a solution for sustainable waste management. Their study also highlighted how important it is for landfills to be designed and operated to encourage biodegradation of waste that can be biodegraded.

Furthermore, the extent of students' practice is "moderate" in terms of their preference when they order products online that use a lot of bubble wraps to secure the package ($w\bar{x}$ = 3.15). The result suggested that students know the adverse environmental effects of bubble wraps. Bubble wraps are not biodegradable because they are composed of plastic. Bubble wraps can take hundreds of years to decompose, which can be detrimental to fauna and the environment. On the other hand, the extent of students' practice is "moderate" in terms of preferring to order products online that use brown box packaging instead of bubble wraps received the lowest weighted mean of 2.91. The findings showed that there is a need for increased awareness among students on using brown boxes instead of bubble wrap since they can decompose naturally and do not cause harm to the environment.

The article on Philippine News Agency (2022) talks about how the pandemic-driven surge in online merchandise sales generate a considerable volume of new plastic waste daily, mainly from the widespread use of "bubble wraps" to package goods ordered by consumers. Apparently, based on the reflected data, though this indicator is just moderately practiced by the students, but then this adds to the pressing concerns on plastics, especially that these wastes are non-biodegradable, and it will take 10 to 1,000 years to decompose them.

Table 2.4 presents the data on the extent of practices of the students on solid waste management in terms of the 7R's - reuse. The data exposed that the extent of practices in this area is "high," as indicated in the composite weighted mean value of 3.71. The findings suggested that students were reusing items more frequently in an effort to reduce pollution and conserve resources.

Specifically, the extent of students' practice in reusing plastic food containers, ice cream containers, glass jars, and plastic jars to store leftover foods, frozen foods, and food ingredients ($w\bar{x}$ = 3.94) is high. The result implied that many students are reusing glass jars and other plastic containers for food storage as a means of recycling. This practice not only helps reduce waste but it also helps save money. The study of Masur (2020) supports the current finding that reusing plastic food containers is only beneficial for food storage. On the other hand, Grant and Kaminski (2022) affirm that repeatedly reusing glass containers is secure and practical for recycling.

It also stipulated that the extent of students' practice in collecting and reusing plastic shopping or grocery bags ($w\bar{x}$ = 3.92) is high. The result suggested that many students collect and reuse plastic shopping bags or grocery bags in an effort to lessen plastic waste in the environment and find means to recycle them. Accordingly, Combiths (2021) highlighted the numerous methods for reusing plastic grocery bags such that they can be used in lining trash cans, using them as emergency trash bags for the car, using them as wet bags, packing shoes in suitcases, picking up dog poop, stuffing them into shoes and purses to maintain their shape, protecting fragile items during moving, and storing paint brushes or rollers for later use.

In addition, it was also reflected that the extent of students' practice in reusing empty 10-L water containers as gardening pots or water buckets ($w\bar{x}$ = 3.90) is high. The

result emphasized that many students knew empty water containers could be reused as gardening or water buckets instead of discarding them. Hence, reusing these types of containers can help decrease the amount of solid waste. The current finding corresponds to the study of Vanheems (2021) when he stressed that farmers are reusing plastic water containers in the garden as environmentally friendly alternative to watering cans. In addition, these empty water containers are a practical method to create a bird feeder, vertical garden, plant pot, greenhouse, birdhouse, self-watering planter, garden scoop, garden tool holder, and garden sieve.

Moreover, the extent of students' practice in using products that prioritize reuse, recycle, or use environmentally friendly materials ($w\bar{x}$ = 3.82) is high. The results implied that many students practice reusing environmentally friendly materials to reduce the adverse effect on human well-being and the environment. According to Ulfat et al. (2023), as an economic strategy based on the reuse and regeneration of materials or products, the circular economy model serves as a means of continuing production sustainably or in an environmentally friendly way reverting excessive rates of waste generation and resource consumption.

Furthermore, the extent of students' practice immediately throwing away empty rubbing alcohol bottles instead of refilling them ($w\bar{x}$ = 2.98) is moderate. The result showed that this moderate practice among students of throwing away empty rubbing alcohol instead of refilling them can still impact the environment since rubbing alcohol bottles are made of plastic. Just like any other materials made of plastic, rubbing alcohol bottles will also take hundreds of years to decompose. According to Rosenboom, Langer, and Traverso (2022), bioplastics are good alternatives to conventional plastics in terms of their ability to be recycled or composted at the end of their life cycle.

Table 2.5 presents the data on the extent of practices of the students on solid waste management in terms of the 7R's - repair. The data revealed that the extent of practices in this area is "high," as indicated in the composite weighted mean value of 3.84. The result implied that students know that repairing items before discarding them benefits the environment by reducing waste, conserving resources, and saving money, demonstrating a high level of repair practice.

According to the results above, it appeared that the extent of students' practice in trying to have their television repaired first rather than throwing it out and replaced ($w\bar{x}$ = 4.24) is "very high". In addition, the extent of students' practice in mending their ripped jeans or holes in clothes instead of disposing of it right away ($w\bar{x}$ = 4.04), trying to have their smartphone fixed first before deciding to buy a new one to reduce e-waste ($w\bar{x}$ = 3.97), preferring their old electric stand fan to have it repaired instead of buying a new one to reduce e-waste ($w\bar{x}$ = 3.49), and having their computer or laptop repaired as opposed to purchasing a new one ($w\bar{x}$ = 3.46) are "high". The data indicated that the students are consistent in saving their stuffs for economic and ecological stability. Moreover, it suggested that people should learn how to repair commonplace items rather than purchasing replacements. It also encouraged people to attempt repairs before

discarding items because fixing these belongings can reduce solid wastes and save money.

In addition, Anderson (2021) mentioned that repair is less expensive than purchasing new products with the same functionality. Furthermore, Bateman et al. (2022) recognized that it is essential to repair electronic devices. Abdullah (2021) also added that the “repair” principle allows manufacturers to keep and use products for a longer period of time. The “repair” principle also applies to consumers who own a product and keep it in good condition. These measures save money and benefit the environment in the long run.

Table 2.6 displays the data on the extent of practices of the students on solid waste management in terms of the 7R’s - regift. It revealed that the extent of practices in this area is “high” with a composite weighted mean value of 3.72. The results indicated that a high practice of regifting can positively affect the environment by preventing the disposal of unused items. Thus, unused items at home will reduce the amount of trash in landfills.

It can be seen from the data that the students put high regard in giving their old stuff toys to younger family members as illustrated by the weighted mean of 3.89 which means that this indicator was practiced by the students in “high” extent. The result implied that giving old stuffed toys to younger family members instead of throwing them away is a very common practice in many families. Giving old stuffed toys to younger family members can teach them the value of reuse and recycling by demonstrating that old toys can be reused rather than discarded. This kind of practice will help instill essential values they can maintain throughout their lives.

The extent of students’ practice in keeping old gift wrappers in good condition to be used on wrapping gifts ($w\bar{x}$ = 3.83) is high. The results indicated that students are highly aware that keeping old gift wrappers in good condition so they can be reused for gift wrapping is an excellent way to reduce waste and assist the environment. The extent of students’ practice in donating old clothes to less fortunate families ($w\bar{x}$ = 3.80) and giving “unused things” at home, which are brand new or in good condition to friends ($w\bar{x}$ = 3.66) is high. These results indicated that students evaluate the condition of an item prior to discarding it. These practices are an excellent means to reduce waste at the same time, help others.

The same is presented in the findings of Dayrit (2019) who postulated that minimizing trash production, reusing, regifting and recycling waste materials, are attainable waste management strategies that will help reduce the amount of garbage thrown into the environment. The result of the study implied that using the 7R’s promotes the management of sustainable resources while reducing the quantity of garbage that needs to be disposed.

The extent of students’ practice in regifting old books, magazines, and comics instead of disposing or burning them ($w\bar{x}$ = 3.43) is high. As indicated by the results, students have high awareness that burning old books, magazines, and comics will

increase the quantity of carbon dioxide and other harmful gases in the atmosphere, contributing to air pollution and global warming.

According to Reyna-Bensusan et al. (2018), burning wastes is a bad practice for reducing biodegradable waste because it causes premature deaths in adults due to greenhouse gas (GHG) emissions. The same is mentioned in the study of Chen, Bodirsky, Krueger, Mishra, and Popp where they emphasized that burning of wastes produces substantial amounts of dangerous air pollutants that could seriously harm the human health particularly in developing countries.

Table 2.7 reveals the data on the extent of practices of the students on solid waste management in terms of the 7R's - recycle. The data stipulated that the extent of practices in this area is "high" as indicated in the composite weighted mean value of 3.41. The result implied that students were highly active in recycling practices. The reason for this could be that students are more environmentally conscious and more likely to take steps to reduce their carbon imprint.

It pointed out that the extent of students' practice in throwing empty plastic containers in a recycling bin ($w\bar{x}$ = 3.80) is high. As indicated by this result, students are highly aware that recycling reduces pollution caused by the chemicals used to manufacture these plastic containers. According to Parkar et al. (2021), plastic containers do not break down when exposed to the action of microorganisms. Plastic has become a vital component of daily life because of its adaptability, leading to various uses. However, because it is not biodegradable, the issue occurs when it does not break down in the natural environment. Therefore, it is essential to minimize the use of plastic whenever possible. Plastics can either be recycled or utilized to reach this goal.

The extent of students' practice in collecting organic wastes for composting to be used as fertilizers in the garden ($w\bar{x}$ = 3.76) is high. As a result, many students believed that collecting organic waste for composting and using it as garden fertilizer is beneficial, as it reduces waste and provides a natural source of plant nutrients. The current finding is likewise evident in the study of Domingo and Manoos (2017), where the segregation of biodegradable waste, dumping it in a compost pit, and turning it into plant fertilizer is a good practice for reducing biodegradable waste. Reagan (2023) also emphasized that organic wastes can be composted and used as fertilizers in the garden. The study of Coracero et al. (2021) also revealed that people are encouraged to create compost from waste to be used as fertilizer.

The data further unveiled that participating in recycling campaigns and waste segregation programs ($w\bar{x}$ = 3.28) is "moderate". The result implied that students are not very active in terms of participation due to the lack of recycling campaigns and waste segregation programs. These campaigns and programs can help students develop environmental awareness and critical thinking skills on recycling and segregating waste properly. Bungau et al. (2018) stated that more information campaigns are essential to inform and educate the general population on the appropriate storage and proper and secure waste disposal. Moreover, Parajuly, Fitzpatrick, Muldoon, and Kuehr (2020) also emphasized that the effectiveness of intervention strategies to encourage pro-

environmental behavior relying on information campaigns is limited. Moreover, beliefs about environmental impacts and the effectiveness of one's action come into play between values and norms. In other words, these beliefs and norms, and thus the willingness to perform a particular action, can be shaped by information.

The extent of students' practice in delivering household recyclables to the recycling facilities ($w\bar{x}$ = 3.09) were also practiced in "moderate" extent. The result implied that the delivery of household recyclables to the recycling facilities is not well-practiced due to the absence of these facilities within their municipality. The current finding is supported by the study of Nguyen and Tan (2020), who emphasized that the absence of materials recovery facilities, a type of recycling facility, indicates that RA 9003 still needs to be implemented.

Furthermore, the extent of students' practice in disposing e-waste such as cooling equipment, computers, telecommunications equipment, and others is found to be "moderate" as indicated in its weighted mean of 3.09. The result implied that students need to be made aware of the environmental and health risks associated with e-waste, indicating that their practice in disposing of e-waste is limited. In addition, appropriate disposal facilities and policies need to be improved. The finding of the study of Maphosa (2021) which examines students' awareness and attitude toward e-waste management practices at a Zimbabwean university is in opposition to the result of the current study because as what he had discovered electronic wastes in their country is not properly managed and eventually caused environmental and health degradation. He further revealed the participants in his study acknowledged that lack of awareness, policies, unavailability of collection points, and recycling facilities significantly affect their e-waste management practices.

Table 3 presents the data in identifying the relationship between the problems and practices in SWM of the students. Utilizing Spearman's Rank Order Correlation, the data revealed that the p-values of the practices like rethink (p = 0.001), refuse (p = 0.000), reduce (p = 0.000), reuse (p = 0.000), regift (p = 0.011), and recycle (p = 0.004) are all less than the level of significance (0.05). These findings allowed the rejection of the null hypothesis. This means that a significant relationship existed between the problems encountered by the students and their practices in terms of the enumerated areas. This finding suggested that students who can identify more problems in SWM tend to have higher utilization of the practices like rethink, refuse, reduce, reuse, regift, and recyle. This means that utilizing these practices may help reduce waste and minimize problems in solid waste management.

The current finding is likewise evident in the study of Bautista (2019) which determines the significant relationship between the level of awareness and practices among Filipino college students on solid waste management. The study revealed that the students' level of awareness is influenced by their practices involving appropriate segregation, reduction, and recycling but had no effect on their practices regarding solid waste management, specifically on reuse, and disposal. He added that the students have encountered more problems on solid wastes and that these students use practices such

as adherence to reduce, recycle, rethink, and proper segregation of solid wastes more frequently because they are more aware of the importance of sustainable waste management and the effects of their behavior on the environment. The study of Formarejo, Hernandez, and Grande (2022) reported that Inland resorts have a high degree of awareness of RA 9003, a high level of practice, and a high level of resources at their disposal, a high level of enforcing and adhering to RA 9003. They also concluded that public practice is strongly correlated with awareness, resources, and enforcement.

Moreover, the study of Domingo and Manoos (2017) exposed that the residents' responses in Boac, Marinduque anticipating any problems with the solid waste management they currently practice is "high." However, some residents expressed that they do not expect any problems with the solid waste management they currently practice. Furthermore, the practices and problems encountered by residents revealed that most of them have an equal amount of biodegradable and non-biodegradable waste they produce daily from their routine demands. The same is likewise evident in the study of Saguban (2020), where residents' level of involvement and awareness of the solid waste management programs in the barangay is only "high." Next, she also noted that the residents practice waste segregation, but their performance is "not very high." She stressed that the local governments blamed waste generators' lack of awareness and discipline for poor segregation.

Meanwhile, the students' problems in SWM and their practices in terms of repair is not significantly related ($p = 0.086 > \alpha = 0.05$). This connoted that their problems in SWM cannot be considered as a determinant on how they utilize SWM in terms of repair. The result implied that repair is not a determinant of how they utilize SWM since it has the highest practice with a composite weighted value of 3.84 compared to the other 6Rs. This means that students knew that repairing items before discarding them benefits the environment by reducing waste and, at the same time, saving money. This finding is also congruent to the study conducted by Anderson (2021), who pointed out that people tend to discard "broken" products without attempting to find a solution to restore their functionality. It is a fact that the new generation of today lacks the patience of repairing damage belongings because they wanted that these will be thrown away and be replaced by new one without considering what it causes to the environment.

Table 4 shows the data in identifying the relationship between the profile of the students and their problems and practices in SWM. Using Spearman's Rank Order Correlation (r_s) for ordinal profile and Chi-Square Test (x^2) for nominal profile, it was shown that of all the profile variables, only the educational attainment of the mothers of the students that is significantly related to the problems encountered ($p = 0.037 < \alpha = 0.05$) as well as their practices in SWM ($p = 0.0308 < \alpha = 0.05$). This means that the more educated they become, the more problems in solid waste management they can identify at home.

In addition, students with mothers of higher educational attainment tend to highly utilize the practices on SWM in terms of the 7Rs. It can be observed that students whose mothers are more educated can point out more problems in solid waste management

since aside from the general notion that women are very particular with cleanliness and orderliness, they are also more knowledgeable and aware of the negative impacts that improper waste disposal could bring not only to the environment but also to the family's health. According to Douti et al. (2017), more women directly encounter household waste problems than men because they believe that women play a vital role in maintaining the household.

Moreover, study of Escario et al. (2020) revealed that women are more engaged in practicing the 3Rs as an efficient strategy in reducing the problem on solid wastes. They added that women are more inclined at reducing and recycling wastes. The findings of Janmaimool (2017) exposed that more respondents with bachelor's degree levels encounter problems in waste management. The same finding was discovered in the study of Escario et al. (2020) when they suggested that highly educated people engage more in 3R behaviors. These findings were also validated in the study of Choon, Tan, and Chong (2017), when they found that his respondents' education level positively correlates to reuse and recycling behaviors.

Conclusions

Aldo Leopold once said, *"We abuse land because we regard it as a commodity belonging to us, but when we see land as a community to which we belong, we may begin to use it with love and respect".*

The current status of planet earth is deteriorating due to the many environmental problems such as global warming, acid rain, ocean acidification, climate change, improper solid waste management that leads to pollution and many others. All these have reached an alarming level, that, if we will not take appropriate actions, this will result into total environmental degradation.

The results of the study shows that an increased awareness among students on Ecological Solid Waste Management Act of 2000 (RA 9003) is needed which features the formal delegation of SWM to local levels, forced closure of illegal dumpsites, investment in facilities, and minimization and effective treatment of solid wastes. In addition, the reimplementation of NORSU Memorandum Number 12, s. 2018 on improved SWM awareness of students which they can practice at home, interactive lessons integrating SWM, labelled trash bins on the campus, extension program to educate parents on SWM are some of the strategies to instill a culture of transforming responsible waste management among students and help them by reducing waste in their households. Overall, the result emphasized the importance of the 7R's to help solve the problems on SWM and in saving the environment from permanent damage in general.

Recommendations

Based on the findings and conclusions drawn, the following are hereby recommended to curriculum developers, school administrators, science instructors and LGU of Pamplona:

Curriculum developers

1. Create a framework for teaching students about environmental issues and sustainability by incorporating solid waste management into the module which includes the 7 environmental principles by Barry Commoner: 1) nature knows best; 2) all forms of life are important; 3) everything is connected to everything else; 4) everything changes; 5) everything must go somewhere; 6) ours is a finite earth; and 7) nature is beautiful and we are stewards of God's creation. This can help reduce the extent of problems encountered by the students in terms of insufficient sorting of SW and Attitude.

2. Provide a curriculum that encourages students to utilize the 7R's practices such as rethink, refuse, reduce, reuse, regift, and recycle. These practices have been shown to have a significant relationship with the problems encountered by the students in terms of solid waste management.

School Administrators

1. Implement the action plan on Home and Campus-Based Solid Waste Management Action Plan in NORSU – Pamplona Extension.

2. Investigate the role of technology in waste management and explore how "waste-to-energy" technology can be used to reduce waste.

3. Conduct an extension program to provide support for mothers with lower educational attainment. This can help reduce the problems encountered by their children in terms of solid waste management.

Science Instructors

1. Create interactive and engaging lessons for students. This can help increase their interest in solid waste management and encourage them to practice proper solid waste management practices at home.

2. Strategize activities that can help students understand the importance of reducing waste and conserving natural resources.

3. Design a module which includes the environmental laws in the Philippines that are related to SWM such as Ecological Solid Waste Management Act of 2000 (RA 9003), Clean Air Act (RA 8749), Clean Water Act (RA 9275), and Toxic Substances and Hazardous and Nuclear Wastes Control Act (RA 6969). This can help ensure that all

students are able to learn and practice proper solid waste management practices at home.

LGU of Pamplona

1. Make an intervention such as providing trash bins with labels for biodegradable, non-biodegradable, and hazardous wastes to help NORSU Pamplona address the issues in SW.

Compliance with Ethical Standards

In adherence to the highest ethical standards, the researchers initially obtained approval from the University Research Office's Ethical Committee. Throughout the study, the researchers meticulously followed all relevant practices and guidelines. The data collected is treated with the highest level of confidentiality. To protect the respondents' identities, their names were not disclosed at any stage of the study, including data collection, analysis, and the reporting of results. This ensures the preservation of anonymity and confidentiality.

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SCHEMATIC INTERVENTION: A TOOL FOR THE IMPROVEMENT OF READING COMPREHENSION OF GRADE 5 PUPILS IN A SELECT PUBLIC SCHOOL IN INFANTA, QUEZON

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ABSTRACT

The study focused on the improvement of reading comprehension among Grade Five pupils in Binulasan Integrated School as a basis in creating a schematic intervention for School Year 2022-2023. Fifteen (15) reader pupils in Grade Five were randomly selected as respondents and they were divided into five groups for the experimental research. Quasi-experimental design using quantitative measure was employed in this study to detect changes in the reading comprehension competence. These measures were administered on a pre-test and post-test basis before and after the schematic intervention. Data gathered were statistically treated using t-test, mean percentage and standard deviation to measure the effectiveness of the schematic intervention. The results revealed that the schematic intervention enhanced the comprehension level of the students than just reading a text. Thus, the schematic intervention found to be effective and can be used to enhance the reading comprehension of grade 4 pupils particularly in noting details, doing jotting down and highlighting. For getting the main idea, all the three schemes used were found to be effective, they are using anchor chart, interactive pictures, and adding the missing title. Next is for predicting outcomes, visualizing and comprehension monitoring. Then, in sequencing events, using video clips, and graphic organizer, also, signal words on the story board, all the three used schemes are effective. Lastly, cause and effect, the effective schemes are supplying connecting words and arranging jumbled words. This implies that teachers may utilize the proposed schematic intervention designed to improve the development of reading comprehension level of pupils.

Keywords: *Schematic Intervention, Reading Comprehension, Reading Skill*

INTRODUCTION

Without comprehension, reading is a frustrating, pointless exercise in word calling. It is no exaggeration to say that how well students develop the ability to comprehend what they read has a profound effect on their entire lives. A major goal of reading comprehension instruction, therefore, is to help students develop the knowledge, skills, and experiences they must have if they are to become competent and enthusiastic readers. Hence, teachers have a pivotal role in helping children to develop and maintain a positive attitude towards learning and literacy. Motivated readers read more, use more complex cognitive strategies, and thus become better readers.

In addition, reading comprehension has been a major point of focus for a variety of educational researchers throughout history. Poor reading Skill is manifested with poor comprehension, wrong pronunciations among others. If no proper intervention is administered early, it could affect the academic, social and psychological development of the child. As such, proper and correct diagnosis of reading disability as early as possible appears to be essential (Porqueriño, 2019)

To address the existing challenge, providing for quality education is one of the most important legacies the State and the local government can offer to the people, in ensuring the grant of good education to the children. Governance of Basic Education Act of 2001, an act instituting a framework of governance of basic education, establishing authority and accountability, renaming the department of education, culture and sports as the department of education, and for other.

To get a decent education is one of the fundamental rights of every citizen. Thus, Section 2, Article XIV of our constitution imposes upon the State the responsibility to “protect and promote the right of all citizens to quality education at all levels” and “take appropriate steps to make such education accessible to all”. This bill aims to promote compulsory education for the children of compulsory school age, providing only for limited special circumstances for exemption, directing the local government units, particularly in the barangay level, to be directly involved in monitoring of the education of children under their areas of jurisdiction and the Department of Education to formulate the necessary curriculum for learning. For this purpose it shall be the joint responsibility of the Department of Interior and Local Government and the Department of Education to ensure the establishment of schools and the necessary support services for the implementation of this measure.

In line with the problem about reading comprehension, there are many schematic interventions that can be practiced to enhance the reading comprehension skills of the students such as comparing and contrasting, sequencing events in a story, analyzing the main idea of a text, understanding the author's purpose. interpreting context clues, making inferences and separating fact from opinion. These skills provide students with an opportunity to increase reading, writing, test taking, and study skills at their instructional level.

In the study of (Lemmello, 2021) a key aspect of reading intervention is developing self-esteem through acquisition of reading and writing skills and strategies. Students gain confidence and their skills improve through instruction in decoding, comprehension, writing, study skills, and test taking strategies across our school district curricula and units of study. Students read fiction and nonfiction books that are chosen to dovetail with the regular class curricula but are written at the students' instruction level. Students also have many opportunities to write in response to reading. Students who attend reading intervention are part of a community of learners who have an opportunity to increase their skills to become strong and confident readers and writers.

Research Questions

This research study aimed to develop a schematic intervention for the improvement of reading comprehension of Grade Five pupils in Binulasan Integrated School. Specifically, this study sought to answer the following questions:

1. What is the level of reading comprehension among Grade Five pupils before the implementation of the schematic intervention?

2. What is the level of reading comprehension among Grade Five pupils after the implementation of the schematic intervention?

3. Is there a significant difference in the level of the reading comprehension before and after the implementation of the schematic intervention among Grade Five pupils?

4. Based on the findings of this research study, what effective schematic intervention may be proposed for Grade Five pupils for the development of their reading comprehension?

METHODOLOGY

Research Design

Quasi-experimental approach using quantitative measure was designed to detect changes in the reading comprehension competence. These measures were administered on a pre-test and post-test basis before and after the schematic intervention.

This research used pre-test and post-test result using five comprehension skills. The instrument were used to determine the effectiveness of schematic interventions in developing reading comprehension level of grade 5 learners in Binulasan Integrated School.

Sampling

The present study utilized a random sampling method. The 15 respondent learners were randomly selected by the researcher with the help of their advisers, they were divided into five groups for the five reading comprehension skills. Each group has 3 members and each member used different intervention scheme.

Data Gathering Procedure

The undertaken survey has 5 groups of respondents for each comprehension skills, and each group has 3 pupils for each schemes.

Every group did the survey for three different weeks. One week for each group. During the scheduled week for each group, the pre-test was given, and with an interval time of one week, the post-test happened.

The following steps were undertaken by the researcher in order to gather data:

1. The researcher asked the permission to conduct the study to the Principal of Binulasan Integrated School, to the parents as well as to the pupil-respondents.
2. The researcher begins the pre-test, and after a week the post-test happened.
3. All the gathered data were treated and analysed using appropriate statistical tools

Research Instrument

The researchers constructed a researchers-made instrument on schematic intervention that served as the main tool in gathering the data needed in this survey study.

It consists of five skills: the sequencing events, getting the main idea, noting details, predicting outcomes, and cause and effect. Each skill has three schemes.

In sequencing events, there are three schemes used. These were: using video clips, graphic organizer, and signal word on the story board.

For getting the main idea, the schemes used were: anchor charts, interactive pictures, and adding the missing title.

Then, the noting details, the schemes were: using power point presentation, jotting down and highlighting.

Another was predicting outcomes, the three schemes were: directed reading thinking activity (DRTA), visualizing, and comprehension monitoring.

And lastly, the cause and effect, the schemes were: using pictures, supplying connecting words, and arranging jumbled words.

All the five comprehension skills were measuring the same competency which was to develop understanding from the text read.

Statistical Treatment

1. Mean percentage of scores was used to determine the comprehension level of selected the Grade 5 pupils.

$$\mathbf{WM} = \frac{\sum \mathbf{x}}{\mathbf{N}}$$

Where:

WM = Weighted Mean

$\sum \mathbf{x}$ = summation of weighted frequencies

N = number of cases

2. The t-test for correlated sample was utilized to determine if difference exists between pre-test and post-test.

Where :

x1=mean difference of table 1

x2= mean difference of table 2

S2=standard error of the difference the two means

N=number

RESULTS AND DISCUSSION

This chapter covers the results and discussions concerning the reading comprehension level and schematic intervention used to Grade 5 learners in Binulasan integrated school.

The order of the discussion follows the arrangement of the Statement of the Problem in Chapter 1.

1.1. Reading Comprehension Before and After the Schematic Intervention

Implementations of appropriate intervention have significant impact to the pupils. In this regard, it is really important that every learner can fully acquire the set of reading skills/competencies per grade level to be able to utilize that in getting information, understanding written text and concepts, conveying messages and eventually developing these competencies needed in the other learning areas, Cando (2018).

Reading Comprehension Before and After the Schematic Intervention

Table 1

SEQUENCING EVENTS		
Schemes	**Pre-test**	**Post-test**
Video Clips	5	5
Graphic Organizer	3	5
Signal Words on the story board	5	5
Mean Score	**4.33**	**5**
GETTING THE MAIN IDEA		
Schemes	**Pre-test**	**Post-test**
Anchor chart	5	5
Interactive Picture	1	5
Add the Missing Title	3	5
Mean Score	**3**	**5**
NOTING DETAILS		
Schemes	**Pre-test**	**Post-test**
Power Point Presentation	1	4
Jotting Down	5	5
Highlighting	4	5
Mean Score	**3.33**	**4.67**
PREDICTING OUTCOMES		
Schemes	**Pre-test**	**Post-test**
Directed Reading Thinking Activity (DRTA)	4	4
Visualizing	1	3
Comprehension Monitoring	3	5
Mean Score	**2.67**	**4**
CAUSE AND EFFECT		
Schemes	**Pre-test**	**Post-test**
Using Picture	2	3
Supplying Connecting Words	1	2
Jumbled Words	2	5
Mean Score	**1.67**	**3.33**
Overall Mean Score	**3**	**4.44**

Table 1 presents the comparison reading comprehension before and after the schematic intervention. It shows that during the pre-test, the results of the scores of pupils vary from each other. There are pupils appeared to have highest or perfect score even without schematic intervention as showed in the graph. But still there is more number of pupils who got low scores, means they need to have intervention. While in the post-test most number of pupils got highest or perfect score. Since, the post-test schematic intervention was conducted. However, there was 1 pupil who still got the low score in the

post test, shows that schematic intervention being used to that pupil is not that effective than the other interventions used.

However, it shows that doing the schematic intervention turned out to be effective as appeared in the study. There are 5 reading comprehension skills and each skill has 3 interventions scheme/schematic intervention used. Furthermore, as the result of the study, in noting detail skills, the schemes are using power point presentation, the pupil doing the test got the score of 1 in the pre-test and 4 in the post-test, while, in jotting down the pupil got 5 in the pre-test and 5 in the post-test and in highlighting the pupil got 4 in the pre-test and 5 in the post-test and it shows that among the three schemes jotting down and highlighting are found to be more effective.

In getting the main idea, the schemes are using anchor chart which the pupils got the score of 5 in the pre-test and 5 in the post-test. In using interactive picture, the pupils got 1 score in the pre-test and 5 in the post-test, while in add the missing title; the pupils got 3 in the pre-test and 5 in the post-test. It appears that all the schemes used are effective.

For predicting outcomes, the schemes used are the directed thinking reading activity (DRTA), the pupils got the score of 4 in the pre-test and 4 in the post-test, while, visualizing, the students got 1 in the pre-test and 3 in the post-test, and comprehension monitoring, the students got 3 in the pre-test and 5 in the post-test. The result shows that visualizing and comprehension monitoring are the effective schemes to be used to pupils.

In sequencing events, the schemes used are using video clip the pupil got the test score of 5 in the pre-test and 5 in the post-test. In using graphic organizer, the pupil got 3 in the pre-test and 5 in the pot-test, while in using signal words in the story board, the students got 5 in the pre-test and 5 in the post-test. It found out that using all the schemes for the sequencing skill found to be effective.

And lastly, the cause and effect skills, the schemes are using pictures, the pupil got the score of 2 in the pre-test and 3 in the post-test. In supplying connecting words, the pupil got 1 in the pre-test and 2 in the post-test, while in using jumbled words, the pupils got 2 in the pre-test and 5 in the post-test. The result of the scores shows that supplying connecting words and arranging jumbled words found more effective schemes.

The result of the study was supported by Cabardo (2015), stated that it is recommended for teachers to develop reading intervention programs, device of localized and contextualized reading materials, text and selection will ensure the development of the reading proficiency of the students.

Significant difference between before and after the implementation of the schematic intervention

Reading Intervention provides students with an opportunity to increase reading, writing, test taking, and study skills at their instructional level. A key aspect of

reading intervention is developing self-esteem through acquisition of reading and writing skills and strategies. Students gain confidence and their skills improve through instruction in decoding, comprehension, writing, study skills, and test taking strategies across our school district curricula and units of study (Lemello, 2021).

Table 2 presents the results of analysis on the significant difference between before and after the implementation of the schematic intervention.

Table 2

Significant difference between before and after the implementation of the schematic intervention

Test	Mean	SD	t-value	p-value	Decision	Interpretation
Pre-test	3.00	1.60	-4.1762	0.00	Reject Null Hypothesis	Significantly Different
Post test	4.40	0.99				

Note: Level of significance at 5%

As can be gleaned from table 2, pre-test has a mean of 3.0 with the standard deviation of 1.60, while post-test has a mean of 4.40 with the standard deviation of 0.99. With the t-value of -4.1762 and p-value of 0.00 implies that the null hypothesis which states that there is no significant difference between before and after the implementation of the schematic intervention is hereby rejected. Hence, the mean difference of 1.4 between before and after the implementation of the schematic intervention is found to be significant. The scores of post-testis more homogeneous compared to pre-test which implies that post-test scores are relatively closed with each other compared to pre-test scores.

In one study, it was found out that different reading strategies were pointed out as effective for reading comprehension. Also, the study of Oxford (2018), found out that through regular practice and using 12 reading strategies can help struggling readers improve their reading comprehension. It was also said that students can improve their expository text comprehension when given some intervention like using graphic organizer and other interventions that would help the needs of the pupils.

On the other hand, Zimmerman (2019), said that visualization is creating fun illustrations and being able to visualize what was read can help them digest the writing better. For in the conducted research study found out that visualization got the lowest score even in the post-test or after the schematic intervention which is visualization.

Proposed Schematic Interventions

As the result of the survey, the effective schematic intervention to enhance the reading comprehension of grade 5 pupils that found out in the result of the survey are; in noting details, doing jotting down and highlighting were the effective schemes, and using power point presentation was the least effective among the tree used scheme.

For getting the main idea, all the three used intervention schemes used are effective, they are using anchor chart, interactive pictures, and adding the missing title.

In predicting outcomes skill, among the three schemes, directed thinking reading activity was rejected for having the least effective survey result, and visualizing and comprehension monitoring are the effective intervention schemes.

Then, in sequencing events, using video clips, and graphic organizer and signal words on the story board, all the three used schemes are effective.

Lastly, cause and effect, the effective schemes are supplying connecting words and arranging jumbled words. While, using picture was resulted for being not that effective intervention scheme.

Conclusions

In light of the findings aforecited the following conclusions can be drawn:

1. The reading comprehension level among the grade 5 pupils in Binulasan Integrated School had a fairly satisfactory level in the pre-test.
2. Most of the pupil-respondents were able to comprehend better with the text read after the schematic intervention.
3. There is a significant difference in the reading comprehension level of the respondents before and after the implementation of the schematic intervention. It proves that schematic interventions enhanced the reading comprehension level of grade 5 pupils in Binulasan Integrated School.

Recommendations

In light of the aforementioned findings and conclusions the following are hereby recommended:

1. To the teachers.

a. Prepare and use reading materials suited to the comprehension level of the pupils
b. Allow pupils to explore and engage themselves to some reading activities.
c. Encourage and motivate pupils in the art of reading.
d. They must conduct more studies about reading interventions or strategies to be used to struggling in reading.
e. Monitor the reading comprehension level of the pupils and give immediate action to pupils encountering difficulties comprehending with the text.

2. To the parents.
   a. Allow pupils to explore and engage themselves to some reading activities at home.
   b. Always give time to your child to teach reading.
   c. Monitor the child's progress in school.
3. To the school administrator.
   a. Encourage the teachers to attend trainings/seminars that will hone their knowledge in teaching reading comprehension to their pupils.
   b. Monitor the teachers' status regarding the reading development of the pupils they handled.

4. To the Department of Education.
   a. Conduct more training/seminars for teachers on how to teach and enhance the reading comprehension of the pupils/students they handled.
   b. Allocate enough budget for the reading materials to support the Childs need to learn how to read.
5. To the future researchers.
   a. They could replicate this study and do further research regarding the schematic intervention that can be used to pupils/students in every school.

Compliance with Ethical Standards

The researchers sought an approval first from their school head, next was getting permission from the parents and pupils stating the areas and data they needed before answering the questionnaire survey. Meanwhile, the researchers guaranteed that all the answers and responses of the respondent learners remained confidential since the researchers did not involve their family background information to secure their confidentiality and anonymity.

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STRATEGIC INTERVENTION MATERIAL IN ENTREPRENEURSHIP 10

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ABSTRACT

This study was conducted to develop strategic intervention material in Entreprenuership 10 as intervention to the least learned competencies and challenges of learners in Entrepreneurship 10. The study was both quantitative and qualitative in nature using document analysis to determine the least learned competencies in Entreprenuership 10 for first and second quarter and semi-structured interview to gather the challenges of grade 10 learners in terms of least learned competencies. Data revealed that in the first quarter, Grade 10 learners of Lun Padidu National High School for SY 2023-2024 have difficulties in learning the competencies on managing product or service development production and introducing product or service to the market according to marketing plan and clients feedback. In the second quarter, the least learned competencies are conducting product or service trial run based on the operational plan of the business and setting target market and project sales of product and/or services. From the interview on the challenges experienced by Grade 10 learners in terms of least learned competencies, three themes emerged: numerical complexity, lack of interest and low understanding of the concepts. Based on the result, Strategic Intervention Material in Entrepreneurship 10 is needed to bridge the gap of learning by providing opportunities for practice, review, and application, leading to mastery of skills and concepts.

Keywords: *intervention, least learned competencies, Entrepreneurship*

INTRODUCTION

Education is one of the most significant investments a nation can make in its future. It is a powerful driving force of change as it contributes to the long-term development, growth and progress of one's country.

Education is a fundamental right but in 2020 it was disrupted by the COVID-19 pandemic. In response to the urgent need to recover education from prolonged disruptions, RAPID framework for Learning Recovery and Acceleration is introduced.

The framework encapsulates five key actions to recover learning: Reach every child and keep them in school; Assess learning levels regularly; Prioritize teaching the fundamentals; Increase the efficiency of instruction, including through catch-up learning; and develop psychosocial health and wellbeing (UNICEF, 2023). In the Philippines, Department of Education adopts the National Learning Recovery Program to address the learning loss heightened by school closures and disruption as well as the low performance of learners in International Large-Scale Assessments and national assessments (DepEd Order No.13, s. 2023). MATATAG Agenda was launched by the Department of Education as the new direction towards improving the quality of basic education in the country which includes the implementation of the revised curriculum known as the MATATAG Curriculum. The MATATAG Curriculum has the following features: decongested curriculum, focus on foundational skills, balanced cognitive demands, clearer articulation of 21st-century skills, reduced learning areas, intensified Values Education and Peace Education, and on a par with international standards (DepEd Memorandum No. 53, s. 2023.

Entrepreneurship as a driving force of economic growth of nations resulted to the incorporation of entrepreneurship as a subject in the education system. However, entrepreneurship Education in the Philippines is more focused in developing people for employment rather than entrepreneurship. Another weakness is the lack of Filipino role models in the form of entrepreneurs promoting high opportunity-high growth undertaking since the education system is highly patterned after that of the United States of America. There is also lack of materials to support entrepreneurial education in terms of cases that focus on local context of business (Velasco, 2013).

Academic performance of the learners can be gauged through their mean percentage score (MPS) in the examination. Records show that the Mean Percentage Score (MPS) of Lun Padidu National High School (LPNHS) in Entrepreneurship 10 is 64.41, 51.16 and 65.76 for school year 2020-2021, 2021-2022 and 2022-2023 respectively (Guidance Counselor Records, 2022). The gathered data revealed that Entrepreneurship 10 reflects MPS below the passing rate of 75% in a 100% MPS percentage which implies that learners have least learned competencies. Informal interview with Techical Vocational Coordinator of LPNHS revealed that learners experience difficulties learning certain concepts in the subject.

With this, the data and arguments above pushed the researchers to conduct this research to develop instructional material as intervention to the least learned competencies and challenges of learners in Entrepreneurship 10. The Strategic Intervention Materials for Entreprenuership 10 will provide opportunities for practice, review, and application, leading to mastery of skills and concepts of learners. It serves to reinforce lessons that may not be fully understood by learners, aiding them in achieving proficiency in the skills being taught.

Research Questions

This study aimed to develop strategic intervention material in Entrepreneurship 10 by determining the least learned competencies and challenges of Grade 10 Learners for first and second grading in Entrepreneurship in Lun Padidu National High School for School Year 2023-2024. Specifically, it answered the following questions:

1. What are the least learned competencies in Entrepreneurship of Grade 10 learners?

2. What are the challenges faced by Grade 10 learners in terms of least learned competencies in Entrepreneurship? and
3. Based on the results, what intervention material can be developed?

METHODOLOGY

The research design was descriptive that describes the characteristics of the population or phenomenon that is being studied (Manjunatha, 2019) utilizing quantitative and qualitative data. The participants of the study are ten (10) Grade 10 learners of Lun Padidu National High School for the SY 2023-2024.

The first instrument was document analysis on the least learned competencies of Grade 10 learners covering the first and second quarter of Entreprenuership 10. The last instrument was interview guide for grade 10 learners. It contained list of questions focusing on the challenges encountered by the learners in terms of least learned comptencies in Entrepreneurship for first and second quarter of 2023-2024. Document analysis and interview schedules were developed by the researchers and validated by three experts. The usual process of validation was used to establish the congruence of the items in the instruments with the statement of the problem. Three experts was requested to serve as validators. Validation sheet was utilized to establish the validity of the instruments. Comments and suggestions of the three validators were incorporated and the final form was checked by grammarian for possible grammatical lapses.

In finding the solution in research question 1, the researchers employed document analysis. In determining the answer in research question number 2, the researchers employed the Braun & Clarke's (2006) 6-step framework to identify useful themes from the semi structured interview on the challenges of Grade 10 learners in terms of least learned competencies. In finding the answer in research question number 3, the researchers presented, analyzed and interpreted the data gathered which serve as the guide in formulating strategic intervention material that presented the concepts and topics in different formats and encouraged the learners to explore and analyze knowledge in meaningful ways to promote deeper engagement in the lessons thereby increasing the academic achievement of learners.

RESULTS AND DISCUSSION

This portion covers the results and discussions concerning the least learned competencies and challenges of Grade 10 learners in Entrepreneurship 10 to develop an intervention material. The order of the discussion followed the sequence of the research questions.

Least Learned Competencies in Entrepreneurship 10

From the document analysis, the least learned competencies of Entrepreneurship 10 for first and second quarter is presented below.

Table 1: Least Learned Competencies of Entrepreneurship 10 For First And Second Quarter

Quarter	Competency
First	1. Manage product or service development production
	2. Introduces product or service to the market according to marketing plan and clients feedback
Second	1. Conduct product or service trial run based on the operational plan of the business
	2. Sets target market and project sales of product and/or services.

In the first quarter, Grade 10 learners of Lun Padidu National High School for SY 2023-2024 have difficulties in learning the competencies on managing product or service development production and introducing product or service to the market according to marketing plan and clients feedback. In the second quarter, the least learned competencies are conducting product or service trial run based on the operational plan of the business and setting target market and project sales of product and/or services. The data revealed that learners have low mastery of concepts on the competencies reflected in Table 1. De Jesus (2019) pointed that lack of content of mastery of the lessons indicates academic underachievement.

The result of the study is similar to the findings of Almeida and Buzady (2019) that the focus group performance was lower in terms of business oriented thinking and prioritizing. These indicate that students attending the entrepreneurship course show less ability to look at business from the customer's perspective and assume greater capacity to evaluate risks in the business of their decisions and performed calculated decisions.

Challenges Experienced by Grade 10 learners in terms of Least Learned Competencies in Entrepreneurship

From the interview on the challenges experienced by Grade 10 learners in terms of least learned competencies, three themes emerged: numerical complexity, lack of interest and low understanding of the concepts.

Table 2. Thematic Statements and Essential Themes on challenges experienced by Grade 10 learners in terms of least learned competencies

Thematic Statements	Essential Themes
All of the participants revealed that they have difficulty dealing with numbers.	Numerical Complexity
All of the participants stated that they are not interested in the subject/lessons.	Lack of Interest
Most of the participants stated that they have low level understanding on the concepts.	Low understanding of the Concept

Numerical Complexity

From the interview conducted, it was revealed that one of the challenges faced by Grade 10 learners in terms of least learned competencies is the numerical complexity These are reflected in the following statements:

SP-1: I find it difficult because there are times I get confused especially with numbers.
SP-2: It is hard for me because I need to count how many stocks are left.
SP-3: During Entrep I feel the subject is difficult because you have to solve the unit price, volume cost and volume target.
SP-4: I find it hard because it talk about finances such as loan, debt, profit.
SP-5. In the discussion I get confused sometimes when the topic is about solving like income and expenses.
SP-6: It is bit hard when it comes to solving and computing since I am not good in Math.
SP-7. It is hard because we have to compute and use formula.
SP-8: During the activity, I find it diffcult when I'm solving the problem
SP-9: It is not easy to compute what should be the price of our product or the costing.
SP-10: I also like the computation even it is a difficult task.

Participants revealed that it is difficult to learn Entrepreneurship because they have to engage in activities and tasks that involves numbers. The results of research conducted by Rameli and Rustam (2016) indicated that learning mathematics was perceived as difficult by students as too many formulas need to be memorized, too many concepts involved in order to solve mathematical problem and respondents experienced examination pressure because they think that they need to apply a lot of knowledge and skills learned to excel in the evaluation. Peteros, Gamboa, Etcuban, Dinauanao, Sitoy and Arcadio (2020) revealed in their study that the students had low self-concept on the perception that they understand Mathematics even the most difficult ones and that every question in Mathematics is answerable. This low level of the respondents' self-concept could be based on their experiences that they were not able to solve severe problems in Mathematics and that they think that not all these problems have answers.

Lack of Interest

From the gathered data, it was revealed that one of the challenges faced by Grade 10 learners in terms of least learned competencies is the lack of interest in the subject. Learners find it difficult to understand the lessons because they do not like the topic and they cannot relate to it. These are shown in the following statements:

SP-1: It is hard for me since I am not interested in Entrep.
SP-2: I find the subject difficult because I do not like the topic which is about business plan.
SP-5: For me, Entrepreneurship is hard because it is about business and I am not interested in business.
SP-7: I cannot relate to the topic because it concerns business which I do not like.
SP-8: Entrep for me is hard since it talks about business which I cannot relate to.

Others learners showed that they are not interested in Entrepreneurship by not being active, attentive and focused to the teaching-learning process as reflected in their statements.

SP-3: During our class, I do not really focus on the discussions and activities.
SP-4: I do not listen and focus to the discussion in Entrep.
SP-10: When we are having the discussion, I am not that attentive to the teacher.

SP-9: In the class activities I am not active because I do not like to engage in business in the future.

Learners find it difficult to master the concepts in Entrepreneurship 10 because of the absence of interest in the subject itself. Farid and Rahman (2020) stated in their study that learners have lack of interest in university entrepreneurship program. It has been reported that some students show low favorable attitude towards being tied with the university‘s entrepreneurship agenda. On the other hand, Rone, Guao, Jariol, Acedillo, Balinton and Francisco (2023) mentioned that the presence of motivation in the classroom setting has been the backbone of the learning process. According to the results of their study, there is lack of motivation and engagement of the learners in the classroom and learners have the mindset to play/talk to their classmates around the classroom rather than listen to the teachers' lesson.

Low understanding of the concept of entrepreneurship

The data revealed that the Grade 10 learners have low understanding of the concept in Entrepreneurship and this is shown in the following statements.

SP-1: For me the lessons are difficult because I cannot understand the lessons fully.

SP-3: During the discussion I cannot understand the lessons because of the terms or words which is not easy to understand.

SP-5: My understanding on the lessons is basic only which makes me slow when it comes to activities.

SP-6: There are times when I struggle to understand the lessons because of the terminologies which are difficult to understand.

SP-8: During the Entrep sometimes I get confuse because I cannot follow easily the discussion of the certain topic.

SP-9. There are times that I'm feeling lost during the activity and discussion.

Learners' comprehension of the concept is limited and suggests that there is gap in the mastery of concepts. Farid and Rahman (2020) stated that lack of understanding on important concepts in entrepreneurship activities, such as the concept of business cooperatives or social entrepreneurship have been reported as unpleasant issues which affect participants‘ motivation to involve in entrepreneurship activities.

Intervention Material

From the least learned competencies in the first and second quarter in Entrepreneurship 10 and challenges of the learners, a Strategic Intervention Materials for Entreprenuership 10 was developed. It is a form of intervention for the grade 10 learners to master the least learned competencies in the first and second quarters in Entrepreneurship 10 to increase their level of understanding. Before the learners can apply their knowledge on series of activities and exercises, concepts were presented first in easy manner for the learners to grasp the idea.

The Strategic Intervention material is contextualized and localized integrating names of local businessman and store owners, nature of business and establishments in the community and nearby places, scenarios and events held that are familiar to students, making the content more relevant, relatable and meaningful. This facilitates students to relate new information to their existing knowledge and experiences and

leading to deeper understanding which may result to increase academic achievement of learners in terms of least learned competencies.

Furthermore, the material has undergone evaluation on the content and grammar through Quality Assurance by the school Quality Assurance Team. Suggestions and recommendations were incorporated in the final manuscript of the intervention material.

Conclusions

From the data gathered, the researchers concluded the following:

1. Grade 10 learners of Lun Padidu National High School for SY 2023-2024 have difficulties in learning the competencies on managing product or service development production and introducing product or service to the market according to marketing plan and clients feedback. In the second quarter, the least learned competencies are conducting product or service trial run based on the operational plan of the business and setting target market and project sales of product and/or services.
2. The challenges experienced by Grade 10 learners in terms of least learned competencies, three themes emerged: numerical complexity, lack of interest and low understanding of the concepts.
3. Development of strategic intervention material for least learned competencies is vital to bridge the gap of learning through mastery of the least learned competencies by providing opportunities for practice, review, and application.

Recommendations

In the context of the findings of the study, the researcher recommends:

1. That teachers need to determine the least learned competencies of learners and are encouraged to develop intervention materials to increase academic achievement of learners in terms of least learned competencies.
2. That teachers need to determine the challenges of learners in learning the concepts as a guide in the development of intervention suited to the needs of the learners.
3. That the Strategic Intervention Material for Entrepreneurship 10 may be adapted for implementation.

Compliance with Ethical Standards

The author(s) have stated that they have no potential conflicts of interest regarding the research, authorship, and/or publication of this article. The authors accomplished this study in compliance with the research ethics protocol. Informed consent was given to each participant before the conduct of the study. The data were treated with utmost confidentiality.

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Based on the recommendations, this action plan was drawn:

ACTION PLAN

Title: Strategic Intervention Material in Entrepreneurship 10

Areas of Concern	**Objective/s**	**Activity/ Strategy**	**Expected Output**	**Persons Involved**	**Time Frame**	**Fund (Amount) Source: Personal**	**Remarks**
Development of Strategic Intervention Material (SIM)	To identify the least learned competencies	Meet and discuss with the Entrepreneurship 10 teacher and coordinator	Least Learned Competencies	Entrep 10 Teacher TVE Coordinator	January 2024	None	Completed
	To create activity sheets/ worksheets	Meet and plan with developers	Activity Sheets/ worksheets	Researchers	January-February 2024	2,000	Completed
Validation of SIM	To validate the content and grammar	Coordinate with TVE Coordinator to identify possible validators in school level Send request letter for grammar editing	Quality assured SIM (School Level)	School QA Team	February 2024	2,000	Completed
		Coordinate with Division TVE Coordinator to identify possible validators	Quality Assured SIM (Division Level)	Division TVE QA Team	March-May 2024	2,000	On process
Editing of SIM	To incorporate the comments and suggestions of validators of School QA Team Division QA Team	Edit the SIM	Edited SIM (School Level) Edited SIM (Division Level)	Researchers	March 2024 March-May 2024	2,000 2,000	Completed On process
Utilization of SIM	To utilize the developed SIM	Present the SIM during School LAC Session to TVE Teachers	Attendance Sheet	Teachers Principal	SY 2024-2025	None	To accomplish
		TVE teachers used the SIM as supplementary material	Answered activity sheets	Teachers Learners	1st-2nd Quarter of 2024-2025	None	To accomplish
		Benchmarking of SIM by other schools	Attendance Sheet	Teachers	Whole year round	None	To accomplish
		Present the SIM to Division LR	Certificate		August 2024	None	To accomplish

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TEACHERS' PEDAGOGICAL PRACTICES IN A CATHOLIC UNIVERSITY

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ABSTRACT

In the educational landscape, pedagogy is considered as one of the pillars of education for it shapes the teaching and learning process, ensuring that learners acquire the knowledge, skills, and values necessary for their personal and professional development. The study aimed to assess the pedagogical practices of teachers during the pre-pandemic up to the present. This study utilized a quantitative type of research, specifically descriptive survey method to describe the pedagogical practices of teachers. Findings revealed that teachers often practiced the following pedagogies: collaborative, reflective, and inquiry-based methods. Teachers' pedagogical practices have a significant difference along the personal profile such as sex, department, field/ specialization, and number of years in teaching. Lastly, teachers' pedagogical practices have a significant difference along academic profile such as number of trainings attended related to instructional pedagogy, type of school from which bachelor's degree was obtained, subject taught, and type of education. With that, continuing professional development is deemed to be significant to upskill teachers in advancing them in both conventional and unconventional settings as 21st century education would demand.

Keywords: *Pedagogical Practices, Catholic University, Flexible Learning*

INTRODUCTION

Teachers play a pivotal role in the educational process. Hence, teachers establish the tone and light in the teaching and learning process by employing a variety of pedagogies to promote active learning among learners. Thus, to achieve the intended

targets and outcomes, implementers of pedagogies must carefully plan their instructions. In connection, pedagogy is crucial because it provides teachers with knowledge of the ideal procedures for a classroom environment. It enables them to comprehend how various learners learn to modify their lesson to meet these demands. Since the learners would find pedagogies engaging, this will enhance their teaching effectiveness in activating learners' knowledge and skills (Ali, Mondal & Das, 2018; Archambault, Leary, & Rice, 2022).

However, with the spread of COVID-19 which resulted to the closure of educational institutions worldwide (United Nations, 2020; UNESCO 2021). This closure has spurred the development of online learning environments within these schools, ensuring that learning is not disrupted. The coronavirus pandemic put the centers' abilities to deal with a crisis that required educational modification to cope with the challenges (Reimers, 2022; Courtney, Miller, & Gisondo, 2022). Moreover, to maintain the continuity of learning and to intensely promote learners' acquisition for the optimum of their abilities in the new normal of education, 21st century education is necessary. Thus, for both instructors and learners to succeed, they must be equipped with adequate information, skills, and competencies (Butola, 2021; De los Reyes, Blannin, Cohrssen, & Mahat, 2022). Hence, this can only be achieved if teachers are able to give quality instruction while employing suitable pedagogies to accelerate learning in the face of ambiguity (O'Keefe, Rafferty, Gunder, & Vignare, 2020).

Pedagogy comes from the Italian word "pedagogia" which means the art and knowledge of teaching learners (Putri & Elihami, 2021). Hence, pedagogy is the center of the educational reform movement. It has been the beginning point for integrating modern concepts about learning and teaching, as well as the relevance of ideas to twenty-first-century educators (Compayré & Payne, 2015; Pham & Philip, 2021; Ginsburg & Megahed, 2021). A teaching strategy known as pedagogy involves teachers instructing learners both in theory and in practice. Pedagogy is influenced by educators' teaching philosophies and includes their knowledge of cultural differences and various learning styles. To consolidate earlier knowledge, it is crucial for students to create meaningful classroom relationships (Brown, Boda, Lemmi, & Monroe, 2019; Rippé, Weisfeld-Spolter, Yurova, & Kemp, 2021).

In the 21st century educational parlance, pedagogy plays a very critical role in the success of teaching and learning. However, literatures suggest that one of the main reasons why there is a decline of the quality of education being provided to the students is the misuse and abuse of pedagogical techniques, especially on the utilization of different instructional strategies of teachers (Sato & Loewen, 2019; Usanov & Qayumov, 2020). Furthermore, there is also a need to revisit teachers' use of pedagogies in their classes especially during the implementation of distance learning and flexible learning which is brought by the COVID-19 pandemic. There are issues that were found in literature that teachers did not provide responsive online learning strategies and techniques to their students because of some external and internal factors and issues (Yates, et al., 2021; Serdyukov, 2015; Terenko & Ogienko, 2020). Moreover, teachers' teaching quality has deteriorated because of inappropriate use of instructional

techniques, methods, and procedures. Learners became passive recipients and partakers of knowledge, which resulted to low academic performance (Ezra, Cohen, Bronshtein, Gabbay, & Baruth, 2021; LaTour & Noel, 2021).

This university, a higher education institution in Northern Luzon, already embraced the use of flexible learning since 2016 with the use of its Learning Management System. However, the full implementation took place last March 2020 due to the effect of the COVID-19. During its full implementation, students and teachers were exposed to flexible learning with the use of online learning as its main learning modality. With the gradual implementation of the full face-to-face learning, the university shifted to Expanded-Inclusive Flexible Learning (E-IFLEX). With the implementation of these learning modalities, it is important to assess the utilization of pedagogies, with emphasis on instructional strategies to ensure responsiveness of these to the needs of students. Hence, this study was conducted to assess pedagogical practices of teachers during the pre-pandemic up to the present.

Research Questions

The study aimed to assess the pedagogical practices of teachers during the pre-pandemic up to the present. Specifically, it sought to answer the following questions:

1. What is the personal and academic profile of teachers?
2. What are the pedagogical practices of teachers during the pre-pandemic up to the present along the following:
    2.1 Constructivist
    2.2 Collaborative
    2.3 Integrative
    2.4 Reflective
    2.5 Inquiry-Based Learning
3. Is there a significant difference on the pedagogical practices of the respondents when grouped according to their profile variables?

METHODOLOGY

This study utilized a quantitative type of research specifically the descriptive survey method to describe the pedagogical practices of teachers. This study was conducted in a private higher education institution in Northern Philippines. The respondents were 227 teachers across all departments.

A checklist was used to gather the personal and academic profile of the respondents. A validated questionnaire was used to determine the pedagogical practices of teachers. The said questionnaire consists of 30 items and divided into five major dimensions which include the following: Constructivist method (6 items), Collaborative method (6 items); Integrative method (6 items); Reflective method (6 items); and Inquiry-based learning

method (6 items). The said tool had undergone content validation by research experts and reliability test prior to its administration.

The data were analyzed using frequency counts and percentage to describe the profile of the respondents, weighted mean to identify the pedagogical practices of teachers, independent sample t-test and one way analysis of variance to determine the significant difference on the pedagogical practices of teachers when grouped according to their profile variables.

RESULTS

Table 1
Profile of the Respondents

Variable	Frequency	Percent
A. Personal Profile		
Sex		
Male	94	41.40
Female	133	58.60
Age		
< 25 years old	44	19.40
25 - 29	107	47.10
30 - 34	26	11.50
35 - 39	11	4.90
40 - 44	20	8.80
45 - 49	13	5.70
≥ 50	6	2.60
Mean Age = 30 years old		
Civil Status		
Single	157	69.20
Married	69	30.40
Widowed	1	0.40
Highest Educational Attainment		
Bachelor's Degree	129	56.80
Master's Degree	88	38.80
Doctoral Degree	10	4.40
Department		
Elementary	24	10.60
JHS (Junior High School)	59	26.00
SHS (Senior High School)	30	13.20
SABH (School of Accountancy, Business, and Hospitality)	18	7.90
SEAITE (School of Engineering, Architecture, and Information Technology Education)	37	16.30
SEAS (School of Education, Arts, and Sciences)	34	15.00

SHAS (School of Health and Allied Sciences)	20	8.80
SGS-CPD (School of Graduate Studies and Continuing Professional Development)	5	2.20
Field/Specialization		
Teacher Education	125	55.10
Social Science and Humanities	16	7.00
Health and Allied Sciences	23	10.10
Business and Hospitality Management	20	8.80
Engineering and Architecture	31	13.70
Information Technology and Related Discipline	12	5.30
No. of Years in Teaching		
< 1 year	13	5.80
1 - 3	95	42.00
4 - 6	54	23.90
7 - 9	15	6.60
≥ 10 years	49	21.70
Ave. No. of Years in Teaching = 6 years		
B. Academic Profile		
No. of training attended related to instructional pedagogy for the past five years		
0 - 5	86	37.90
6 - 10	56	24.70
11 - 15	38	16.70
16 - 20	22	9.70
≥ 21	25	11.00
Type of school from which the teacher obtained his/her bachelor's degree		
SUC/LUC	59	26.00
Catholic HEIs	146	64.30
Private HEIs	22	9.70
Subject/s previously taught		
Language and Literature	36	15.90
Music, Arts, PE, and Health	14	6.20
Economics and Livelihood Education	8	3.50
Mathematics	20	8.80
Allied Health Sciences	31	13.70
Christian Formation Education	23	10.20
Business and Accounting	17	7.50
Professional Education	2	0.90
Social Sciences Discipline and General Education	25	11.10
Research Discipline	6	2.70
Information Communications Technology	13	5.80
Law	4	1.80
Psychology	3	1.30

Engineering and Applied Sciences	17	7.50
Hospitality Management	3	1.30
Architecture	4	1.80
Type of Education		
Teacher Education Graduate	129	56.80
Non-Education Graduate with LET	10	4.40
Non-Education Graduate without LET	88	38.80

Table 2
Summary of Pedagogical Practices of Teachers

Pedagogical Practices	Mean	Description
Constructivist Method	4.50	Always Practiced
Collaborative Method	4.43	Often Practiced
Integrative Method	4.51	Always Practiced
Reflective Method	4.01	Often Practiced
Inquiry-Based Method	4.45	Often Practiced

Table 3.a
Test of Significant Difference on Teachers' Pedagogical Practices When Grouped by Personal Profile

Personal Profile	Group	Constructivist			Collaborative			Integrative			Reflective			Inquiry-Based		
		Mean	t/F value	p-value	Mean	t/F value	p-value	Mean	t/F value	p-value	Mean	t/F value	p-value	Mean	t/F value	p-value
Sex	Male	4.41	2.491	**.013**	4.35	2.037	**.043**	4.44	2.080	**.039**	3.95	1.080	.281	4.43	.603	.547
	Female	4.46			4.48			4.56			4.05			4.47		
Age	< 25	4.52	.581	.746	4.43	.388	.886	4.53	.275	.948	4.08	.613	.719	4.47	1.511	.176
	25 - 29	4.52			4.46			4.53			4.05			4.51		
	30 - 34	4.42			4.39			4.49			3.83			4.42		

	35 - 39	4.48			4.38			4.41			3.86			4.26		
	40 - 44	4.56			4.34			4.55			4.05			4.41		
	45 - 49	4.49			4.49			4.47			3.96			4.46		
	≥ 50	4.25			4.28			4.39			3.72			4.00		
Civil Status	Single	4.49	.951	.343	4.42	.394	.694	4.48	1.693	.092	4.03	.395	.693	4.46	.010	.992
	Married	4.55			4.45			4.59			3.99			4.46		
Highest Educational Attainment	Bachelor's Degree	4.51	2.157	.118	4.44	.182	.834	4.53	1.027	.360	3.96	.721	.487	4.49	1.277	.281
	Master's Degree	4.51			4.40			4.51			4.08			4.11		
	Doctoral Degree	4.22			4.42			4.33			4.02			4.30		
Department	Elementary	4.73	8.975	**.000**	4.59	5.455	**.000**	4.63	6.309	**.000**	4.22	5.512	**.000**	4.46	5.608	**.000**
	JHS	4.75			4.62			4.74			4.27			4.70		
	SHS	4.58			4.52			4.59			4.05			4.52		
	SABH	4.32			4.			4.			3.			4.14		

					25			27			49					
	SEAITE	4.26			4.27			4.30			3.61			4.22		
	SEAS	4.36			4.23			4.35			4.19			4.35		
	SHAS	4.27			4.24			4.48			3.76			4.52		
	SGS-CPD	4.30			4.63			4.50			4.30			4.50		
Field/ Specialization	Teacher Education	4.65	10.603	**.000**	4.53	3.897	**.002**	4.60	4.153	**.001**	4.24	7.017	**.000**	4.55	3.690	**.003**
	Social Science and Humanities	4.43			4.32			4.54			4.05			4.44		
	Health and Allied Sciences	4.29			4.26			4.49			3.78			4.48		
	Business and Hospitality Management	4.35			4.29			4.30			3.57			4.16		
	Engineering and Architecture	4.14			4.23			4.28			3.64			4.29		
	Information Technology and Relate	4.68			4.49			4.56			3.69			4.33		

	d Discipline															
Years in Teaching	< 1 year	4.71	4.241	**.003**	4.64	1.997	.096	4.69	1.211	.307	4.29	1.341	.256	4.74	3.281	**.012**
	1 - 3	4.37			4.36			4.46			3.92			4.40		
	4 - 6	4.60			4.49			4.53			4.14			4.58		
	7 - 9	4.69			4.57			4.63			3.96			4.42		
	≥ 10 years	4.52			4.37			4.50			3.96			4.34		

p<.05=Significant

Table 3.b
Test of Significant Difference on Teachers' Pedagogical Practices When Grouped by Academic Profile

Academic Profile	Group	Constructivist			Collaborative			Integrative			Reflective			Inquiry-Based		
		Mean	t/F value	p-value	Mean	t/F value	p-value	Mean	t/F value	p-value	Mean	t/F value	p-value	Mean	t/F value	p-value
No. of training attended related to instructional pedagogy	0 - 5	4.47	2.596	.037	4.39	1.763	.137	4.52	1.609	.173	3.92	1.810	.128	4.43	1.560	.186
	6 - 10	4.65			4.54			4.61			4.14			4.57		
	11 - 15	4.49			4.47			4.51			3.83			4.47		
	16 - 20	4.33			4.33			4.36			4.17			4.35		
	≥ 21	4.45			4.32			4.42			4.16			4.35		
Type of school from	SUC/LUC	4.60	3.188	.043	4.45	.129	.879	4.54	.385	.681	4.09	.569	.567	4.53	.976	.378
	Catholic HEIs	4.45			4.41			4.50			3.97			4.42		

which bachelor's degree was obtained	Private HEIs	4.59			4.44			4.56			4.04			4.45		
Subject taught	Language and Literature	4.68	5.103	.000	4.62	2.707	.001	4.66	2.609	.001	4.27	3.285	.000	4.60	3.285	.000
	Music, Arts, PE, and Health	4.82			4.65			4.75			4.45			4.68		
	Economics and Livelihood Education	4.83			4.64			4.77			4.25			4.71		
	Mathematics	4.42			4.41			4.46			4.05			4.27		
	Allied Health Sciences	4.34			4.28			4.47			3.85			4.46		
	Christian Formation Education	4.57			4.39			4.54			4.06			4.44		
	Business and Accounting	4.30			4.22			4.24			3.59			4.14		
	Professional Education	4.67			4.17			3.92			3.92			4.25		
	Social Sciences Discipline and General Education	4.65			4.53			4.63			4.39			4.67		

	Research Discipline	3.97			4.20			4.11			3.31			4.17		
	Information Communications Technology	4.70			4.51			4.56			3.76			4.35		
	Law	3.80			3.88			4.21			3.71			4.21		
	Psychology	4.61			4.61			4.56			4.28			4.56		
	Engineering and Applied Sciences	4.20			4.27			4.38			3.74			4.40		
	Hospitality Management	4.45			4.78			4.61			3.66			4.39		
	Architecture	4.21			4.00			4.17			3.00			3.96		
Type of Education	Teacher Education Graduate	4.65	20.318	.000	4.55	13.672	.000	4.61	7.735	.001	4.23	15.309	.000	4.55	6.588	.002
	Non-Education Graduate with LET	4.47			4.53			4.53			1.05			4.20		
	Non-Education Graduate without LET	4.29			4.24			4.38			3.69			4.34		

p<.05=Significant

DISCUSSION

Table 1 shows the profile of the respondents. In terms of personal profile, majority of the respondents are female, twenty-five (25) to twenty-nine (29) years of age, single, bachelor's degree holders, teaching in junior high school, specializing in teacher education, and have been into teaching profession for one (1) to three (3) years. In terms of academic profile, most respondents attended less than five (5) trainings related to instructional pedagogy for the past five (5) years, obtained his/her bachelor's degree in Catholic Higher Education Institutions, taught language and literature, and are teacher education graduates.

Table 2 shows the summary of pedagogical practices of teachers. As shown, constructivist method and integrative method are always practiced by teachers. On the other hand, teachers often practiced collaborative method, reflective method, and inquiry-based method. Among these pedagogical practices, integrative method obtained the highest mean. This implies that integrative method is always practiced over other pedagogical practices because it provides more comprehensive and holistic understanding of a topic by combining different perspectives and approaches. An integrative teacher is characterized to be creative, adaptable, and critical in reasoning (Bati, 2023; Aparicio-Herguedas, Fraile-Aranda, & Rodríguez-Medina, 2023). Without proper integration, learners will not be able to build the competency in skills that are necessary for enduring success. Integrated pedagogies provide learners with a better knowledge of the course material and how to apply what they've learned in the classroom in real-world situations. This, in turn, helps students prepare for their future education, careers, and lives in general. The main characteristics of integrated learning include creativity, flexibility, critical thinking, and teamwork. The learning technique allows a wide range of learning styles, theories, and different intelligences (Anamova & Khvesyuk, 2020; Rizhniak, Pasichnyk, Zavitrenko, Akbash, & Zavitrenko, 2021; Khan & Soomro, 2022).

Table 3.a shows the test of significant difference on teachers' pedagogical practices when grouped by personal profile. It was shown that there is a significant difference on teachers' pedagogical practices when grouped by sex along constructivist method, collaborative method, and integrative method. Also, a significant difference was revealed on teachers' pedagogical practices when grouped by department along constructivist method, collaborative method, integrative method, reflective method, and inquiry-based method. By field/specialization, a significant difference on teacher's pedagogical practices was found along constructivist method, collaborative method, integrative method, reflective method, and inquiry-based method. The findings also revealed that there is a significant difference on teacher's pedagogical practices when grouped by number of years in teaching along constructivist method and inquiry-based method. Lastly, there is no significant difference on teachers' pedagogical practices when grouped by age, civil status, and highest educational attainment. Meanwhile, there is no significant difference on teachers' pedagogical practices when grouped by sex along reflective method and inquiry-based method since the probability is higher than 0.05. Hence, the null hypothesis is accepted. The findings highlight the importance of considering the intersecting influences of individual, organizational, and contextual factors in

promoting effective teaching and learning experiences in schools and educational settings. By understanding and addressing the unique needs and preferences of teachers, educational stakeholders can work collaboratively to create supportive environments that foster professional growth, innovation, and student success (Alejandro & David, 2018; Kilag, Tokong, Enriquez, Deiparine, Purisima, & Zamora, 2023).

Table 3.b shows the test of significant difference on teachers' pedagogical practices when grouped by academic profile. It can be gleaned that there is a significant difference on teachers' pedagogical practices when grouped by number of trainings attended related to instructional pedagogy along constructivist method. Findings also revealed that there is a significant difference on teachers' pedagogical practices when grouped by type of school from which bachelor's degree was obtained along constructivist method. It was shown that there is a significant difference on teachers' pedagogical practices when grouped by subject previously taught along constructivist, collaborative, integrative, reflective, and inquiry-based method. By type of education, a significant difference on teachers' pedagogical practices was revealed along constructivist, collaborative, integrative, reflective, and inquiry-based methods. Lastly, it was shown that there is no significant difference on teachers' pedagogical practices when grouped by number of trainings attended related to instructional pedagogy along collaborative, integrative, reflective, and inquiry-based method. By type of school from which bachelor's degree was obtained, no significant difference on teachers' pedagogical practices was found along collaborative, integrative, reflective, and inquiry-based method since the probability value is higher than 0.05. Hence, the null hypothesis is accepted. The findings underscore the importance of considering teachers' academic profiles and professional backgrounds when designing teacher training programs and educational interventions aimed at enhancing pedagogical effectiveness. By tailoring professional development initiatives to address the specific needs and experiences of educators, schools and educational institutions can better support teacher growth and improve student learning outcomes (Sancar, Atal, & Deryakulu, 2021); Alkaabi, 2023; Borbajo, Malbas, & Dacanay, 2023). Additionally, understanding how different factors intersect to influence pedagogical practices can inform efforts to create inclusive and effective learning environments that meet the diverse needs of students and teachers alike (Hutchison & McAlister-Shields, 2020; Fuentes, Zelaya, & Madsen, 2021).

Conclusions

Based on the findings, the following conclusions are drawn:
1. Teachers often practiced the following pedagogies: collaborative, reflective, and inquiry-based methods. However, there is a need to strengthen and master the other pedagogies for holistic teaching to cater the peculiarity of diverse learners amidst the learning constraints.

2. Teachers' pedagogical practices have significant differences along the personal profile such as sex, department, field/ specialization, and number of years in teaching.

3. Teachers' pedagogical practices have significant differences along academic profile such as number of trainings attended related to instructional pedagogy, type of

school from which bachelor's degree was obtained, subject taught, and type of education.

Recommendations

In light with the findings and conclusions presented in the study, the following are recommended:

1. The academic coordinators and program chairs may consider the different pedagogical approaches during their classroom observation among their teachers to ensure that teachers are implementing best practices, to support teacher development, to promote student-centered learning, to improve student engagement, and to foster positive and conducive learning environment.

2. The school academic administrators may consider it in reviewing and revising their classroom observation tool to obtain precise and well-evaluated teaching and learning process. By incorporating these approaches into the observation tool, school academic administrators can ensure that the tool is comprehensive and reflective of current best practices in education. This can lead to more effective teacher evaluations and ultimately improve student learning outcomes.

3. The institution, specifically program implementers, may use it as a benchmark for crafting relevant programs, training/seminars, workshops for teachers which focus on instructional strategies focusing on the five approaches in teaching.

4. The teachers may focus on the frequently utilized instructional strategies and strengthen the mastered approaches to obtain holistic teaching. Thus, mastering the different approaches will significantly help both teachers and learners, likewise the institution to practice culture of excellence in education.

5. The study may look on the experiences of learners regarding the teachers' utilization of instructional pedagogies.

6. The future researchers may conduct another study looking on the significant relationship of pedagogical practices on other variables such as teachers' pedagogical beliefs, teachers' teaching performance, and students' learning performance.

Compliance with Ethical Standards

Ethical considerations were employed by the researcher. Informed consent was accomplished by the respondents to ensure the compliance to ethical standards. The

data that were provided by the respondents were treated with utmost confidentiality and anonymity.

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TEACHERS' PERCEPTION OF THE UTILIZATION OF INSTRUCTIONAL MATERIALS IN TEACHING STATISTICS AMONG THE SCHOOLS IN BUTUAN CITY

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ABSTRACT

This study investigates the Teachers' Perception of the Utilization of Instructional Material in Teaching Statistics among Senior High Schools in Butuan City, focusing on random variables and probability distribution. Thirty-five teachers from eighteen selected schools participated during the SY 2017-2018, providing their perceptions through questionnaires based on the ADDIE model. Stratified random sampling was employed, and data were analyzed using descriptive statistics, weighted mean, standard deviation, and Chi-Square test. Results indicate that most teachers were between 20 to 30 years old, held bachelor's or master's degrees in mathematics, and had over 10 years of teaching experience. The analysis suggests that teachers highly value instructional materials, considering them essential for effective lesson delivery and emphasizing their relevance to the topic studied, despite limitations in availability. Demographic characteristics such as age, educational attainment, gender, and teaching experience did not significantly influence teachers' perceptions. This study underscores the importance of instructional materials in teaching statistics, irrespective of teacher demographics, emphasizing the need for their careful and strategic utilization in enhancing the teaching-learning process.

Keywords: *Instructional Material, Teaching Statistics, ADDIE Model.*

INTRODUCTION

Teaching is a profession whereby the individuals who practice or intend to practice it help and facilitate others to acquire knowledge, competences or values. Teaching is a science where strategies and practices in a body of research has shown to be effective in enhancing learning; and at the same time an art, where teachers need to find the methods and strategies that work best for them and for the learners (Johnson, 2010).

Alvarado (2018) states that while teachers still frequently utilize the speak and chalk approach to impart mathematical information, it is no longer the norm in the classroom. Every teacher needs supplies and resources in order to be effective. Many studies suggest individuals can be classified according to different learning styles - audio learners, visual learners, verbal learners, etc., and teachers need to be equipped with resources to strategically achieve their objectives in class.

Instructional materials are the tools used in educational lessons, which includes active knowledge and evaluation. Basically, any resource a teacher uses to help them teach their students is an instructional material. Having a framework of the lesson is much effective when an application and integration of instructional materials (IMs) will be utilized in the teaching and learning process (Alvarado, 2018).

Instructional materials are tools that help to facilitate the teaching and learning process. Uses of instructional materials appeals to learners by creating interest goal that will help them achieve direct effort especially in the field of mathematics and statistics. Teacher's problem of goal is essentially one of arranging situation with instructional materials in which the learner will see goals he wants to achieve (Brown et. al. 2005).

In statistics, IMS has been introduced to foster deeper appreciation. Statistics as a branch of Mathematics with a wide variety of contents needs a healthy and well-developed knowledge and concepts for its contents. The K to 12 Curriculum Guide in statistics released by DepEd in 2013, one of its introductory content is the Random Variables and Probability Distributions.

Random Variables and Probability Distribution has an above average in difficulty and a major challenge for the teacher on how to deliver the information clearly. It is a must that the learner should demonstrate the understanding of key concepts of random variables and probability distributions and should be able to apply an appropriate random variable for a given real-life problem (such as in decision making and games of chance).

Lesson exemplars and instructional materials for this subject content will be a greater aid in achieving the competencies and desired skills leading to quality teaching and promoting globally acquainted learners. So to be an effective teacher, a statistics teacher in particular must know how to passionately craft and wholeheartedly devote their time in structuring lessons and producing materials for the benefits of learners (Alvarado, 2018).

The need for instructional materials in teaching statistics cannot be underestimated. The readiness and aptness of appropriate teaching modules are undeniably essential in strengthening fundamental quantitative and statistical skills. The non-availability of instructional materials that can easily convey the message of the lesson to the learners in the secondary education in the schools of Butuan City could greatly limit the effective methods and strategies that can be employed by the teachers.

Ensuring appropriateness of instructional materials being utilized in teaching statistics, a systematic approach known as the ADDIE model was utilized. Furthermore, this study highlights the evaluation phase of the ADDIE model wherein to gauge the teachers' perception of the utilization of instructional materials in teaching statistics among the selected schools in Butuan City.

Research Questions

This study would determine and assess the Teachers' Perception of the Utilization of Instructional Material in Teaching Statistics among the selected Schools in Butuan City. Specifically, it aims to seek the following questions:

1. What are the demographic profiles of the teachers teaching statistics?
2. What are the perceived scores of the Teachers' Perception on the Utilization of Instructional Material in Teaching Statistics?
3. Is there a significant difference in Teachers' Perception in relation to their demographic profile?
4. What are the manifestations and realization of the teachers on the significance of the instructional materials?

METHODOLOGY

Locale of the study

The study was conducted to different SHS Institutions within the City of Butuan. The list of schools is shown in table 1.

The respondents of the study were thirty – five (35) teachers among the Senior High Schools in Butuan City which are teaching Statistics during the SY 2017-2018, specifically Random Variables and Probability Distribution. In different schools, the researchers collected the following data:

Name of Schools	Number of Respondent/s
Agusan National High School	6
Alviola Integrated School	2
AMA Computer Learning Center	2
Ampayon National High School	1
Banza National High School	2
Basag Integrated School	1
BP Pueblos Senior High School	4
Butuan City Comprehensive High School	2
Butuan City School of Arts and Trades	1
Caraga State University-Senior High School	1
Father Urios Institute of Technology	3
Libertad National High School	1
Philippine Electronic, Communication and Information Technology	2
San Vicente National High School	1
Saint Joseph Institute of Technology	3
Taligaman National High School	2
Tungao National High School	1

Table 1: Distribution of the Respondents

Sampling Design

The study used the stratified random sampling design in which the researchers' select respondents who are Senior High School teachers in Butuan City that are teaching Statistics during the SY 2017-2018 to get their perceptions towards the utilization of the instructional materials.

Scope and Delimitation of the Study

The study is delimited to and focused on Senior High School Statistics teachers among the selected schools in the City of Butuan. The research sample is composed of thirty-five (35) Statistics teachers teaching statistics and probability of eighteen schools in the city to determine the perception of the utilization of instructional material in teaching statistics specifically in the random variable and probability distribution.

The research data also was based on entirely from the questionnaires answered by the Statistic teachers based on their interaction with an instructional material provided to them by the researchers created through the ADDIE model.

Data Gathering Procedure

Before conducting this study, the researchers wrote a letter asking permission to conduct a study to different institutions from the principals of selected SHS Schools within Butuan City.

The participants were given a brief instruction for them to get exact information about the questions from the proposed instructional material module on random variable and probability distribution and presented for their evaluation. Responses were tallied and tabulated for statistical analysis.

The research instrument used in gathering the data was the survey questionnaires adopted from the study of Ogbaji, D. (2017) entitled “Teachers’ Perception of the Utilization of Instructional Materials in Teaching Social Studies in Junior High Schools in Calabar Municipality, Cross River State, Nigeria”.

The questionnaire is made up of two sections, Part 1 is to seek information on the demographic characteristics of the teachers and Part 2 is the perception of the utilization of instructional material.

Statistical Treatment

After the data gathered were compiled, sorted out, organized, and tabulated, the data is subjected to the statistical treatment to facilitate the presentation, analysis, and interpretation.

The following statistical tools or test procedures were utilized:

1. Frequency count and percentages was used to determine the demographic profile of the respondents through pie charts and bar graph.

2. Weighted Mean (Average) and Standard Deviation was used to determine the perception of the respondents on the utilization of instructional material.

3. Chi-Square test was used to address the null hypothesis and determine the significant association of the teachers’ demographic profile and their perceptions.

RESULTS

Problem 1. What are the demographic profiles of the teachers teaching statistics?

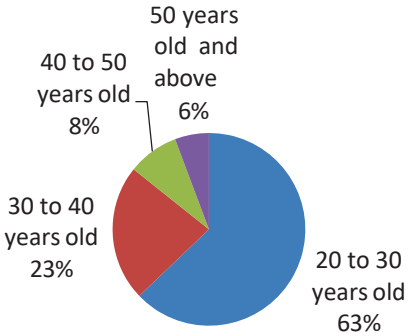


Figure 1: Distribution of the Respondents Age

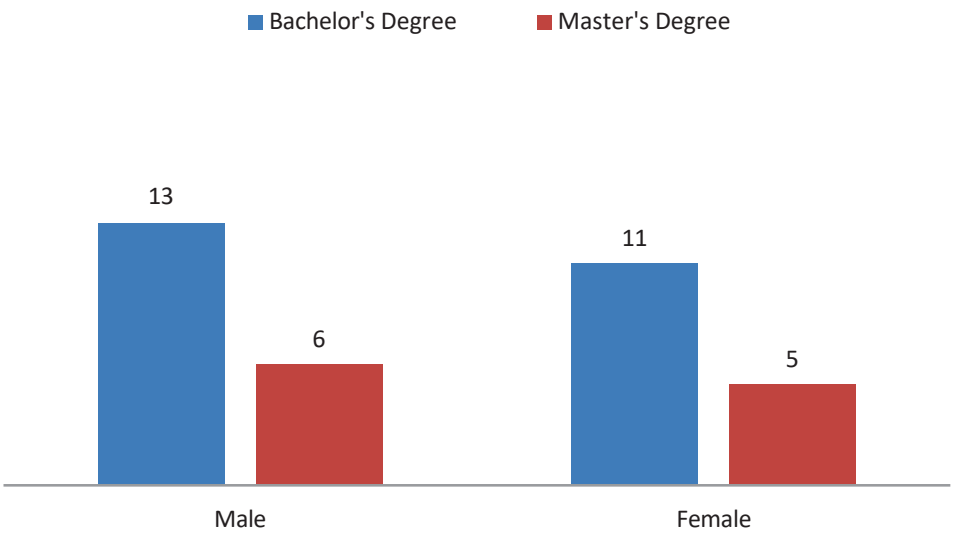


Figure 2: Distribution of Respondents' Educational Background by Gender

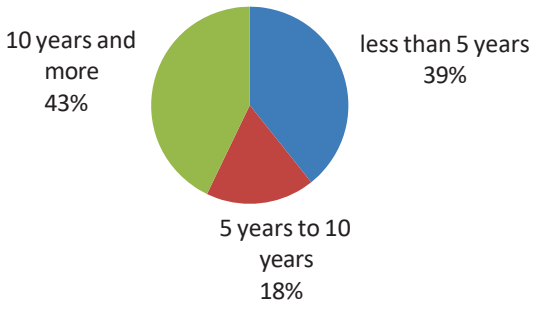


Figure 3: Distribution of Respondents by Number of Years Teaching

Problem 2. What are the perceived scores of the Teachers' Perception of the Utilization of Instructional Material in Teaching Statistics?

Perception on the Utilization of Instructional Material in Teaching Statistics	Average Score	Standard Deviation	Remarks
The use of instructional materials makes lesson delivery easy.	4.74	0.44	**Highly Agree**
The effectiveness of instructional materials is dependent on their relevance to the topic under study.	4.37	0.60	**Highly Agree**

The teachers judiciously utilize instructional materials even when they are available in minimal quantity.	4.06	0.59	**Agree**
Instructional materials are in short supply in secondary schools in Butuan City.	3.91	0.92	**Agree**
The lack of utilization of instructional material is the reason for not actualization the topic on Random Variables and Probability Objectives.	3.89	0.47	**Agree**
Instructional materials on Statistics, particularly on Random Variables and Probability Distribution is lacking in Butuan City.	3.71	0.79	**Agree**
Community resources are widely used in Butuan City.	3.40	0.81	**Agree**
The topic of Random Variables and Probability Distribution can be taught effectively even without instructional material.	2.77	1.14	**Either Agree or Disagree**
Improvisation is not necessary if the instructional material is unavailable.	2.74	1.07	**Either Agree or Disagree**
Teachers find sometimes difficult to the use of an instructional material in the teaching process.	2.74	1.01	**Either Agree or Disagree**

Table 2. Perception on the Utilization of Instructional Material in Teaching Statistics

Problem 3. Is there a significant difference in Teachers' Perception in relation to their demographic profile?

Variables	Test Statistic	p-value	Remarks
Age	8.805	0.117	**Not Significant**
Highest Educational Attainment	-0.341	0.733	**Not Significant**
Gender	-0.936	0.349	**Not Significant**
Teaching Experience	1.642	0.440	**Not Significant**

Table3. significant difference in Teachers' Perception in relation to their demographic profile

DISCUSSION

Figure 1 reveals the distribution of our respondents by age. The figure shows that majority of our teacher-respondents were 20 to 30 years old. 23% of our respondents were 30 to 40 years old. Also, 8% of our teachers were 40 to 50 years old while 6% were 50 years old and above.

Several investigators have found a curvilinear age function, with productivity beginning at a relatively low rate in the late 20s, peaking around 40, and declining thereafter (Homer, Rushton, & Vernon, 1986). With respect to teaching effectiveness, investigators have provided less definitive results. Recent reviewers have concluded that either no relation or a negative relation exists between age and quality of teaching (Blackburn & Lawrence, 1986).

Figure 2 shows the distribution of the teacher-respondents based on their educational background by gender. The figure displays that most of our teachers teaching statistics in Butuan City were holding a bachelor's degree majoring in mathematics and almost half of that were master's degree holders in mathematics teaching.

Di Dio et al. (1996) suggest that there are different values and self-construal's present in males and females. However, the results showed that there were no significant differences between males and females in terms of how they judge the usefulness of instructional methods in teaching statistics.

Findings related to teachers' academic degrees (e.g., bachelors or masters, etc.) are inconclusive. Some studies showed positive effects of advanced degrees (Betts, Zau, & Rice, 2003), while others showed negative effects (Ehrenberg & Brewer, 1994). Teacher Education in the Subject Matter of Teaching (in-field preparation) This characteristic is related to the subject-matter knowledge teachers acquire during their formal studies and preservice teacher education courses. The evidence gained from different studies is contradictory. Several studies show a positive relationship between teachers' qualifications and their impact on student achievement findings (Goldhaber & Brewer, 2000), while others have less unequivocal results. Monk and King (1994) find both positive and negative effects of teachers' in-field preparation on student achievement. Goldhaber and Brewer (2000) find a positive relationship in mathematics, but none in science. Also, Rowan, Chiang, and Miller (1997) report a positive relationship between student achievement and teachers' majoring in mathematics. Monk (1994), however, finds that having a major in mathematics has no effect and a significant negative effect of teachers with more coursework in physical science. The results of the study showed that there was no significant relationship between the teacher's educational attainment to their perception on the utilization of instructional materials in statistics.

Figure 3 displays the distribution of the respondents' number of years of teaching experience. The figure reveals that most of our respondents have more than 10 years of experience with the percentage of 43%. 39% of the teachers have less than 5 years of teaching experience while 18% have 5 to 10 years of experience.

Studies on the effect of teacher experience on student learning have found a positive relationship between teacher effectiveness and their years of experience, but not always a sign or an entirely linear one (Murnane & Phillips, 1981). Studies suggest that while inexperienced teachers are less effective than more senior teachers, the benefits of experience appear to level off after a few years (Rivkin, Hanushek, & Kain, 2000). The relationship between teacher experience and student achievement is difficult to interpret since this variable is highly affected by market conditions or motivation to work during the child-rearing period. Harris and Sass (2007) point to a selection bias that can affect the validity of drawing conclusions about the effect of teacher's years of experience. The results show that there is no significant relationship between the teacher's number of years in teaching experience to their perception in utilizing instructional materials.

Table 2 shows the scores of the teachers on their Perception on the Utilization of Instructional Material in Teaching Statistics. The table shows that the respondents highly agree that the use of instructional materials makes lesson delivery easy with a mean of 4.74 and the effectiveness of instructional materials is dependent on their relevance to the topic under study with a mean of 4.37.

Kay (2008), Instructional materials stimulate the students' desire to learn. It assists learning process by making assimilation and memorization of materials easy. Also, it helps to hold attention, includes greater acquisition and, as well as objectives which may be inaccessible to many students. Teaching at any level requires that students be exposed to some form of simulation. Ikerionwu, (2000), refers to instructional materials as objects or devises that help the teacher to make learning meaningful to the learners. Instructional materials, which are educational inputs, are of vital importance to the teaching of any subject in the school curriculum. Wales (1975), opined that the use of instructional materials would make discovered facts glued firmly to the memory of students. A teacher who makes use of appropriate instructional materials to supplement his teaching will help enhance student's innovative and creative thinking as well as help them become enthusiastic, Ekwueme, and Igwe (2001). Instructional materials make teaching and learning more effective. They can be manipulated, seen, heard or talked about as instruments which facilitate such activity. Esu, Enukoha, and Umoren (2004) stated that instructional materials are necessary ingredients in the development of any curriculum.

Instructional materials facilitate teaching and learning activities and consequently, the attainment of the lesson objectives. However, this depends on the adequacy and appropriateness of materials so selected. This in effect, means that learning resources are not selected haphazardly (Jiya, 1993). Indeed instructional materials to be used should be carefully selected by the teachers. The obvious facts remain is that people remember those they have seen, touched and even played with. The primary task of teaching is to facilitate effective learning and understanding of the content materials (Shoji, 2005). Instructional materials which appeal to all learners' understanding of the language phenomena should be encouraged for use in our schools.

Furthermore, the teachers agreed on the careful utilization of instructional materials even when they are available in minimal quantity (4.06) and instructional materials are in short supply in secondary schools in Butuan City (3.91).

According to Mitzal (in Azeb, 1998), when there is lack of materials that appear geographically to the understanding of the pupil, teaching can be a challenge indeed. In light of this statement Tirusew (1998) also describes that for effective teaching-learning to take place, the classroom must be adequately organized and conducive enough. The crux of educational quality among others heavily relies upon the environmental (both internal and external) materials whenever theoretical issues are presented in classrooms for students, it is practically proven that students get the most out of them when they are supported by teaching materials (Houlok, 1990). The writer argued that a classroom should encompass teaching materials like textbooks.

In addition, the teachers concur that the lack of utilization of instructional material is the reason for the non-actualization of the topic on Random Variables and Probability Objectives with a mean of 3.89 and that the Instructional materials on Statistics, particularly on Random Variables and Probability Distribution is lacking in Butuan City with a mean of 3.71.

The use of instructional materials can enhance the learning achievement. Cronbach (2009) states the important elements of behavior that provides the base for learning theory situation which consists of all the objects, persons, and symbols in the learning environment.

According to Adeniyi (2000), the use of teaching aids and materials are to communicate move permanently and the information is retained when supplemented with aid certainly instructional materials which carefully selected and skillfully used. It also makes learning more effective, therefore it becomes necessary to investigate how instructional materials serve as tools in the teaching and learning situation.

Moreover, the teachers also agree that the community resources, like the library, are widely used in Butuan City (3.40).

Hao-Ren (2012) suggests that school and public libraries must have cooperation in order to deliver the materials needed to implement the curriculum design. Playing as the local gateway to knowledge, the public library is essential for lifelong learning, independent decision-making and cultural development of the individual and social groups. The public library aims a providing all kinds of knowledge, information, and services readily and equally available to her patrons. Collections of the public library must cover broad subjects and be suitable for patrons of all age groups. The Public library should endeavor to reduce the digital divide by offering Internet services for those who cannot access the Internet at home (UNESCO, 1994).

Esu (1995) asserted that the main aim of instructional materials in the teaching of Mathematics is to increase the effectiveness of teaching mathematics as a means of preparing learners for future responsibilities as adults. Textbooks and other learning materials may influence teachers‟ beliefs about mathematics (Collopy, 2003).

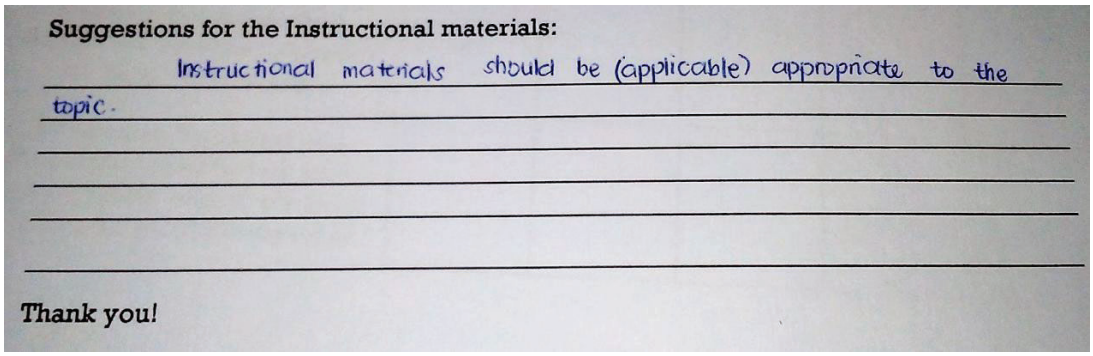
Mathematics manipulative-based instructional techniques are approaches that include opportunities for students to physically interact with the objects to learn target information (Carbonneau & Marley, 2012).

Table 3 shows the table of significance in the perceptions scores on teaching statistics among the demographic profiles of the teachers. The table reveals that for all profiles of the teachers, none has a significant difference in their perceptions. Age (0.117), Highest Educational Attainment (0.733), Gender (0.349) and Teaching Experience (0.440) show no correspondence on their perceptions. The remarks denote that regardless of the status and background of the teachers, their perceptions on the importance and relevance of the instructional materials in teaching senior high school statistics with emphasis on random variables do not significantly differ.

In a study on the impact of teachers' qualification on students' performance, Colfalter, Ladd, and Vidgor (2006) found that a significant difference exists in the mean performance of students in schools staffed with qualified teachers and those schools staffed with unqualified teachers. Adeniji (2004) supported this finding to a great extent that teachers' qualification has a potent relationship with students' achievement. Ukewe (1999) observed that many students draw inspiration from competent and good teachers who are essentially qualified. This means that educational training influences job performance and also acts as a reliable indicator of the type of work one should look for. Iheanacho (2002) argued that teachers with higher education qualification are more effective than those with lower qualification and that skilled teachers with some additional skills are more productive than the unskilled.

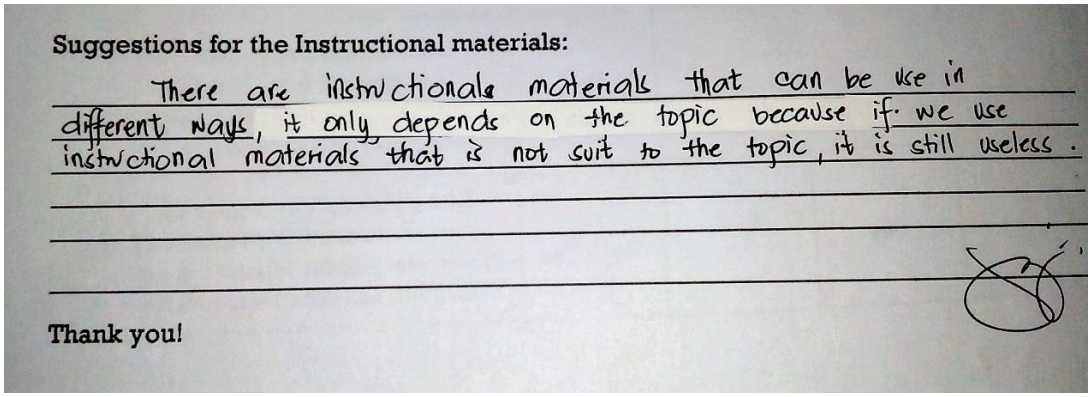
Problem 4. What are the manifestations and realization of the teachers on the significance of the instructional materials?

Moreover, some teachers have realizations on the use of instructional materials; the following were some constructive comments from the respondents:



"Instructional materials should be appropriate to the topic."

This statement emphasizes that teachers must choose instructional materials that are appropriate to the topic and the teachers must be creative in making it.

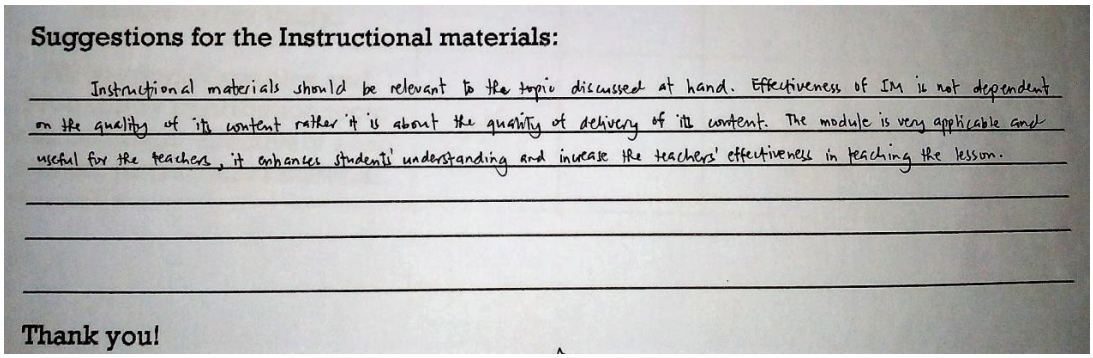

Suggestions for the Instructional materials:

There are instructionals materials that can be use in different ways, it only depends on the topic because if we use instructional materials that is not suit to the topic, it is still useless.

Thank you!

"There are instructional materials that can be use(d) in different ways, it only depends on the topic because if we use instructional materials that (are) not suit(ed) to the topic, it (IMs) is still useless."

One of the respondents clearly emphasizes the importance but according to the comment, it will only depend on the topic.

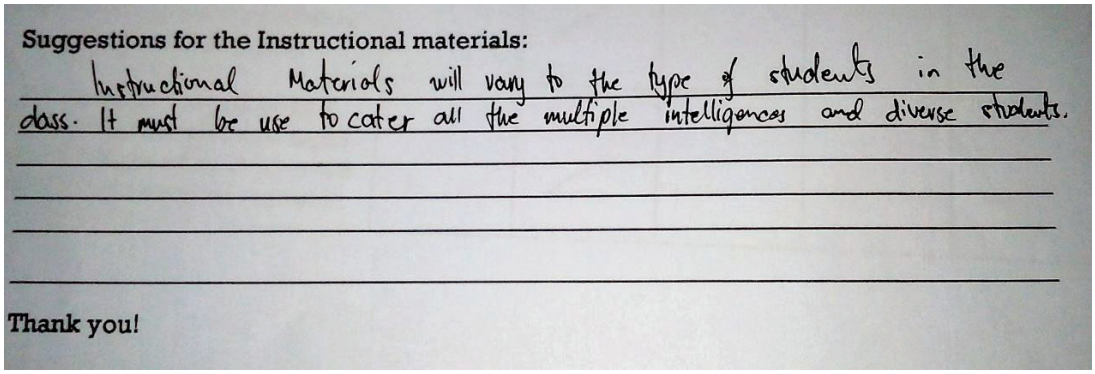

Suggestions for the Instructional materials:

Instructional materials should be relevant to the topic discussed at hand. Effectiveness of IM is not dependent on the quality of its content rather it is about the quality of delivery of its content. The module is very applicable and useful for the teachers, it enhances students' understanding and increase the teachers' effectiveness in teaching the lesson.

Thank you!

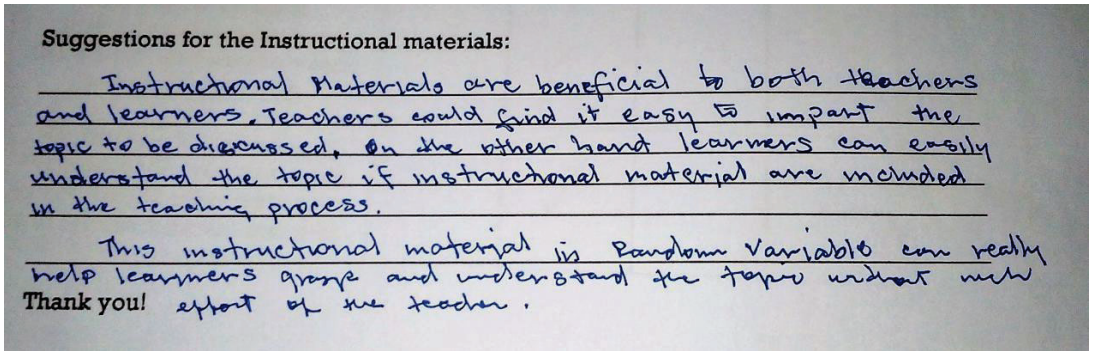
"Instructional material should be relevant to the topic discussed at hand. (The) effectiveness of IM is not dependent on the quality of its content rather it is about the quality of delivery of its content. The module is very applicable and useful for the teachers. It enhances student's understanding and increase(s) the teachers' effectiveness in teaching the lesson."

One of the respondents clearly emphasizes that in teaching specific subject matter in Probability and Statistics like Random Variable and Probability Distribution, instructional materials should be relevant to the topic and must be used effectively utilized to have a desirable result. Modules will also help the teachers to make the teaching-learning process effective.


Suggestions for the Instructional materials:
Instructional Materials will vary to the type of students in the class. It must be use to cater all the multiple intelligences and diverse students.
Thank you!

"Instructional materials will vary to the type of students in the class. It must be used to cater the multiple intelligence and diverse students"

This statement wants to convey to the researchers that Instructional materials must cater different learners inside the classroom and the teacher must use the instructional materials effectively.


Suggestions for the Instructional materials:
Instructional Materials are beneficial to both teachers and learners. Teachers could find it easy to impart the topic to be discussed, on the other hand learners can easily understand the topic if instructional materials are included in the teaching process.
This instructional material is Random Variable can really help learners grasp and understand the topic under much effort of the teacher.
Thank you!

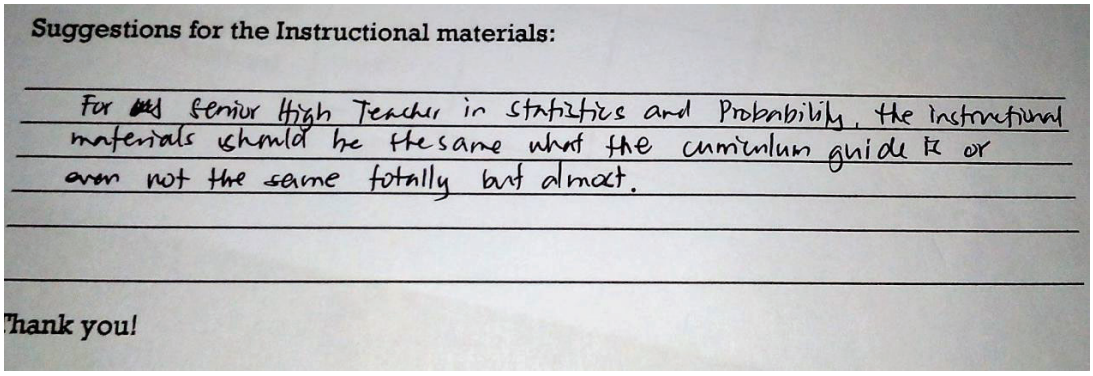
"Instructional materials are beneficial to both teachers and learners. Teachers could find it easy to impart the topic to be discussed, on the other hand, learners can easily understand the topic if instructional materials are included in the teaching and learning process. This instructional material in teaching Random Variable can really help learners to grasp and understand the topic under much effort of the teacher."

The respondent wants to emphasize that using Instructional materials in teaching statistics and probability helps both the teachers and the learners to make the teaching-learning process more meaningful. Instructional materials could help the learners not just to understand the topic but also to use this knowledge in real life situations.

Akanbi (1988) defined instructional materials as materials designed to enrich the teaching and learning processes and hence contribute to better learning. Leohard (1999), conceived instructional materials as "a wide range of materials and devices, designed to provide realistic imagery and substitute experiences in order to enrich curricular experiences of many kinds". From the aforementioned meanings of instructional materials, the best way of helping pupils to learn is to bring them face to face with the world which education intends to introduce to them (Mkpa, 1989). He stressed further that

one way this can be attained is by using real objects in real life situations for instruction. Where real life situation is not possible, the alternative is for the teacher to use representations of real-life situations. These representations are materials, devices, and techniques that help the teacher to make a realistic approach to his job. Whether real or substitutes, these representations have a common goal. They help the teacher to convey the intended message effectively and meaningfully to the learners so that the learners receive, understand, retain and apply the experience gained to reach overall educational goals.

Some teachers have also their manifestations on the use of instructional materials; the following were some constructive comments from the respondents:

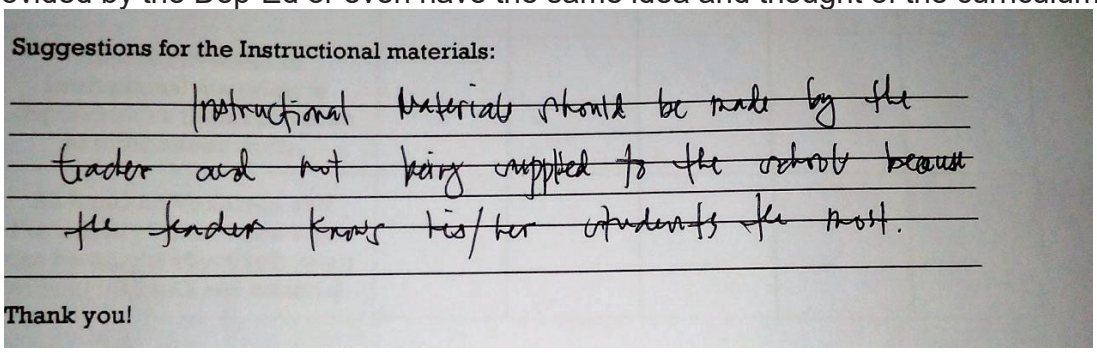

Suggestions for the Instructional materials:

For us Senior High Teacher in Statistics and Probability, the instructional materials should be the same what the curriculum guide is or even not the same totally but almost.

Thank you!

"For us, Senior High (School) Teachers in Statistics and Probability, the instructional materials should be the same (with) what the curriculum guide is or even not the same total(ly) but almost (the same)."

The comment suggested that IMs should be the same with the curriculum guide provided by the Dep-Ed or even have the same idea and thought of the curriculum.

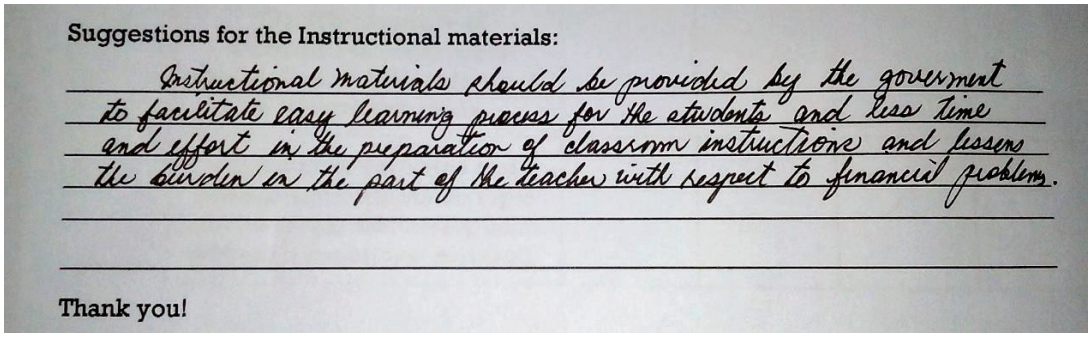

Suggestions for the Instructional materials:

Instructional materials should be made by the teacher and not being supplied to the schools because the teacher knows his/her students the most.

Thank you!

"Instructional materials should be made by the teacher and not being supplied to the schools because the teacher knows his/her students the most"

The respondent suggests that the teacher must be the designer of their own instructional materials. Teachers know what should be done inside the classroom and what should be the appropriate IMs that should be used.

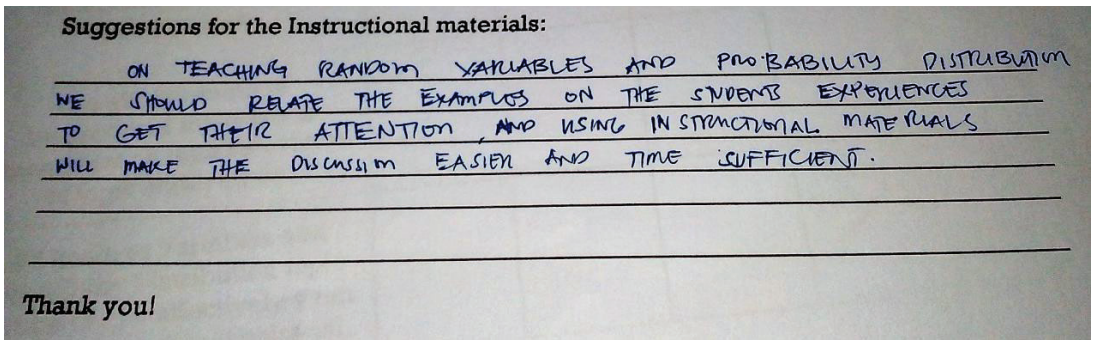

Suggestions for the Instructional materials:

Instructional materials should be provided by the government to facilitate easy learning process for the students and less time and effort in the preparation of classroom instructions and lessens the burden on the part of the teacher with respect to financial problems.

Thank you!

"Instructional materials should be provided by the Government to facilitate (the) easy learning process for the students and less time and effort in the preparation of classroom instructions and lessens the burden in part of the teacher with respect to financial problems."

This comment suggests that the Government must support the teachers in providing instructional materials to the teachers and give them an opportunity to have seminars to improve their skills in preparing effective IMs.


Suggestions for the Instructional materials:

ON TEACHING RANDOM VARIABLES AND PROBABILITY DISTRIBUTION WE SHOULD RELATE THE EXAMPLES ON THE STUDENTS EXPERIENCES TO GET THEIR ATTENTION, AND USING INSTRUCTIONAL MATERIALS WILL MAKE THE DISCUSSION EASIER AND TIME SUFFICIENT.

Thank you!

"On teaching Random Variables and Probability Distribution, we should relate the examples on(of) the students(') experiences to get their attention and using instructional materials will make the discussion easier and time sufficient."

This suggests that IMs help the teaching and learning effective and time sufficient if we will relate the IMs to the students' real-life experiences.

Conclusions

Based on the findings of the study, the following are the conclusion drawn the profiles of the teachers has no significant difference in their perceptions. The Age, Highest Educational Attainment, Gender and Teaching Experience show no correspondence on their perceptions. The remarks denote that regardless of the status and background of the teachers, their perceptions on the importance and relevance of the instructional materials in teaching senior high school statistics with emphasis on random variables do not significantly differ.

Recommendations

On the basis of the conclusion drawn, the following recommendations have been made:

1. The Instructional materials should be made appropriately for all topic in statistics.

2. Community resources such as public libraries should be enriched with instructional materials in line with the Dep-Ed Curriculum.

3. Public libraries and school libraries must collaborate in order to ensure readiness and appropriateness of the instructional materials that teachers can use in teaching statistics.

4. An appeal or request must be made to Dep-Ed in order to coordinate with schools offering SHS in order to provide training and seminars to SHS teachers to enhance their skills in creating effective instructional materials in teaching Statistics and Probability that will make the teaching-learning process more meaningful.

5. A criteria must be established to evaluate Instructional Materials. Such may be used by the teachers themselves to judge the materials they use in their lessons.

6. Guidelines must be released for a procedure of regular evaluation or update of IMs to ensure relevance and aid the achievement of the objective which is to apply the lesson in real-life situations.

7. The researcher proposed an instructional material in Random Variable and Probability Distribution which might be useful in the teaching-learning process. The researcher followed the K to 12 curriculum guide for Grade XI.

Compliance with Ethical Standards

The following are necessary to guarantee that research is carried out ethically and honestly.

Informed consent. In order to conduct a study, the head of the school will be written a letter by the researcher to gain permission. The participants will be informed particularly about all the aims and objectives of the research.

Privacy and Confidentiality. The participants are given orientation before answering the survey questionnaire in pursuance of RA 10173 or Data Privacy Act of 2012, all personal and/or sensitive information collected and disclosed by this survey shall be used solely for purposes of the study.

Conflict of Interest. The researchers are disclosing any financial or personal conflicts of interest that could potentially bias the results or their interpretation.

Fairness and Equity. Researchers make sure that everyone is treated equally, respectfully, and without prejudice based on factors like ethnicity, gender, or socioeconomic position.

Acknowledgments

The researchers would like to extend their sincere thanks to all school principals and statistics teachers of the Schools Division of Butuan, DepEd Butuan City Division, Butuan City, Philippines, for allowing them to conduct the study.

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TEACHERS' PRACTICES ON THE 21ST CENTURY SKILLS AND SENIOR HIGH SCHOOL STUDENTS' ACADEMIC PERFORMANCE IN THE CORE SUBJECTS

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ABSTRACT

This study aimed to determine the extent of practice of the Senior High School teachers on the 21st century skills to develop their students' competence and become globally competitive. The respondents of the study were the 348 students representing the first three batches of Senior High School graduates of Foundation Preparatory Academy. The researcher utilized the descriptive–correlational method, used a validated questionnaire, and employed mean, weighted mean, Chi-square and Spearman rank-order correlation coefficient. The students' grades in the core subjects were also considered. The study revealed that the extent of teachers' practices on the following 21st century skills is high: (a) Learning and Innovation Skills; (b) Information, Media, and Digital Literacy Skills, and (c) Life and Career Skills. It was also found out that the students' academic performance in the core subjects is generally in the outstanding level. Furthermore, there is a significant relationship between sex and students' overall academic performance in the core subjects in favor of the female students. A significant relationship also existed between the type of Junior High School completed from and the students' overall academic performance in the core subjects in favor of those coming from public high schools.

Keywords: *learning and innovation skills, media and digital literacy skills, life and career skill*

INTRODUCTION

In today's information age, education for sustainable development is given emphasis to hone every individual's ability to acquire knowledge, skills, attitudes, and values which are important in shaping one's viable future. This requires a transformation of the educational system, from the traditional "teachers on-stage" scenario, to active, participative, and experiential classroom practices where learners are actively engaged and are proactive in making a difference in this globally competitive world. One of the most significant changes in the educational history of the Philippines is the implementation of the K to 12 Program. The major change brought about by this program is the addition of two (2) years in the secondary curriculum, known as Senior High School. It is assumed that the additional two (2) years is important to improve the mastery of basic competencies and to provide better preparation of the graduates for tertiary education, middle-level skills development, employment, and entrepreneurship (Presidential Communications Development and Strategic Planning Office, 2013).

According to Care, Kim, Vista, and Anderson (2018), with the implementation of the K-12 curriculum, there is a major shift in the educational learning goals for sustainable development. They further stated that developing young citizens to be globally competitive requires equipping them with the 21st century skills, such as: problem solving, collaborative, critical thinking skills; life and career skills; and information, media, and technology skills.

However, Lugtu (2018) reported that the first graduates of the K-12 program did not make the full cut as these graduates are still half-baked, unprepared, and incompetent. The Philippine Chamber of Commerce and Industry (PCCI) claimed that the K-12 graduates are not yet ready for work and that they lack the necessary 21st century skills such as "innovation" and "critical thinking skills". Moreover, according to the Global Competitiveness Index 2017–2018 released by the World Economic Forum, the Philippines ranked 76th for quality of Math and Science education. Meanwhile, on the basis of the overall Philippine Educational system, the country ranked poorly coming in at 113th out of 127 countries in the 2017 Global Innovation Index (The Global Competitiveness Report, 2017). In addition, the 2018 results of the Program for International Student Assessment (PISA), which measures the ability of 15-year-old students to use their Reading, Mathematics, and Science knowledge and skills, disclosed that out of the 79 participating countries, the Philippines ranked second to the last in both Science and Mathematics (PISA Result, 2018).

The declining performance of our students, especially in the Philippine Program for International Student Assessment (PISA), evidently proves that there is still a problem in the curriculum. Cordon and Polong (2020) stressed that since PISA is a tool that measures not only the students' 21st century skills competency but also teachers' performance in teaching the students of the said skills, it is imperative that the curriculum and the educational system in general must be revised. It is strongly recommended that a review of the different aspects concerned be done — from the curriculum to the teachers' performance, including students' readiness in the examination which might contribute to students' low performance in Math and Science. It is on this note that the researcher found the urgency to conduct a study on teachers'

extent of practices of the 21st century skills and on how these practices influence the Senior High School graduates' academic performance as indicated in the average ratings in each of their core subjects to determine their level of competence of the 21st century skills. The researcher aims to use the results of the study as a basis in designing a program that will improve the Senior High School core subject curricula and instruction to help the educational system in the hope that the school could offer the students "world class education".

This section presents the related literature and studies relevant to the K to 12 Program; the 21st Century Skills such as Learning and Innovation Skills; Information, Media, and Literacy Skills; Life and Career Skills; the students' profile; and Issues and Challenges of the 21st Century Skills.

K-12 Curriculum. The advent of new technology paved the way for students to gain opportunities of becoming more technologically-adept and be exposed to varied learning modalities. With this development, today's new generation is exposed to the so-called "digital era" where modern technology such as smart phones, computers, laptops, iPads, and the internet are their primary means of acquiring information and knowledge.

In this context, schools and teachers play important roles in shaping students' learning in such a way that the quality and learning they acquire are aligned with the growing demands of the society and the job market. In the study of Rotherham and Willingham (as cited in the works of Magno, Bardemorilla, & Pecson, 2016), it is stated that business leaders, politicians, and educators unanimously expressed that students must be equipped with the necessary 21st century skills for them to be able to compete in the global market. In line with this urgent need, teachers must develop their learners' 21st century skills by providing students with authentic learning opportunities that will maximize their potentialities and capabilities, thus making them competent individuals endowed with the skills necessary to cope with the changes of time. In the Philippines, with the enactment of the K to 12 Program signed into law by former President Benigno Aquino III in accordance with the Basic Education Act of 2013 (R.A. 10533), the promotion of developing 21st century skills among Filipino learners to become functionally literate and holistically developed has been regulated. The law envisions to produce graduates that are ready to take on the challenges of today's generation and are motivated to navigate the increasingly globalized world. The K-12 curriculum in the Philippines is a basic education program which covers kindergarten education, 6 years of primary education, 4 years of junior high school, and 2 years of senior high school. Incoming Senior High School students are given the freedom to choose from the 4 tracks which include the Academic track; Technical, Vocational, and Livelihood track; Sports track; and Arts and Design track. The Academic track is composed of 4 strands which include Accountancy, Business, and Management (ABM); Science, Technology, Engineering, and Mathematics (STEM); Humanities and Social Sciences (HUMSS); and General Academic Strand (GAS). The Technical, Vocational, Livelihood (TVL) track also consists of Home Economics (HE); Information and Communication Technology (ICT); Agri-Fishery Arts (AFA); and Industrial Arts (IA) (DepEd, 2016). It was believed that the program will give enough time for the mastery of concepts and skills, equipping lifelong learners with the deemed abilities needed in the field of employment, entrepreneurship, skills development, and college education (Trance & Trance, 2019).

21st Century Skills. Education in the 21st century highlights globalization and internationalization which requires the command of the 21st century skills. The 21st century skills are lifelong learning competencies needed by students to strive in the future (Voogt & Roblin, 2010). Equipping students with 21st century skills plays the key role in preparing the 21st century learners to survive and excel in the new global environment (Apple, 2008). According to David Ross (2017), 21st century skills do not only provide students with the framework for successful learning, but it also equips them with the skills needed to survive in this very dynamic society where change is constant. He further added that these skills give children the opportunity to develop fundamental skills required for them to express themselves with reason, think creatively and critically, collaboratively work with others, and enable them to actively participate in a globally connected world. These skills and their integration in classroom instruction are the focus in the recent educational reforms as well as in curriculum development (Savu et al., 2014; Boholano, 2017). According to Donovan, Green, and Mason (2014), students who do not possess these skills could have difficulties in keeping up with the pace of the demands in the competitive work environment. Therefore, students have to gain more knowledge about different subject areas to lead a successful life, and at the same time, they have to achieve some crucial skills, which will help them survive in the fast-changing world (Rahman, 2019).

Different institutions and organizations classified the 21st century skills in various ways. The Partnership for 21st Century Skills (P21), a joint government corporate organization, classifies competencies into 3 skill sets and 12 components. The first skill set is life and career skills that include flexibility and adaptability; initiative and self-direction; social and cross-cultural interaction; productivity and accountability; and leadership and responsibility. The second set is learning and innovation skills, such as critical thinking and problem solving; communication; collaboration; creativity; and innovation. The last set includes the digital literacy skills that encompass information; media literacy; and technology literacy (as cited in Shidiq & Yamtinah, 2019).

On the other hand, the international research project – Assessment and Teaching of 21st Century Skills (ATCS) – classifies the 21st century skills into the following 4 types: (1) ways of thinking (creativity and innovation; critical thinking, problem solving, and decision-making; learning to learn and metacognition); (2) ways of working (communication and collaboration); (3) tools for working (information and ICT literacy); and (4) living in the world (citizenship; life and career skills; personal and social responsibility) (Binkley et al., 2012).

According to the Organization of Economic Cooperation and Development, the 21st century is the “knowledge economy” which puts emphasis on skills as its global currency needed in the future society (OECD, 2012). Ongardwanich, Kanjanawasee, and Tuipae (2015) stressed that the 21st century skills help every individual to learn and adapt to changes in the global economy which further serves as the key to shifting one’s economic status. In line with this, it is natural that significant reforms in the educational system must be made to cope with the intense transformation. These reforms must be focused in educating the so-called “generation Z” to become lifelong learners who are equipped with more knowledge, can effectively communicate and contribute to sustainable development, and can cope with the demands of the present century (Salas-Pilco, 2013).

Cheng (2017) observed that these educational reforms made use of the three principles of science learning which emphasized the following: students as active learners; learning is achieved through experience, hence experiential learning is required; and different students may achieve differently and should be allowed diverse learning paths and diverse learning outcomes. Students are given the opportunity to explore and manage their own learning while teachers only facilitate students to become active learners. This marks the shift in the educational system, from rote learning and memorization of facts to the development of the 21st century skills of creativity; critical thinking; communication; collaboration; information, media, and technological skills; and problem-solving skills (Urbani, Roshandel, Michaels, & Truesdell, 2017; Van Laar et al., 2017). They claimed that these skills are important in producing effective and efficient citizens who can competently participate in the "knowledge economy" of the future wherein human beings are called as the "highly qualified human capital".

Learning and Innovation Skills. Creativity and innovation open the doors to a more productive, engaging, and meaningful experience in generating unique ideas and concepts. According to the Partnership for 21st Century Skills Framework, Learning and Innovation Skills are sets of skills which include the 4Cs, such as creativity and innovation, critical thinking and problem solving, communication, and collaboration skills. The Partnership for 21st century learning emphasized that students nowadays must be taught on how to acquire these skills to prepare themselves in this dynamic world where the demands for a result-oriented workforce are highly needed by the booming industries worldwide. In addition, the Common Core Standards also support PISA's focus and expressed that all curricula, especially Mathematics, must prepare students the hallmarks of Innovation and Learning Skills which include communication, collaboration, and problem-solving skills through mathematical modeling for students to solve problems that they may encounter in everyday life (Common Core State Standards, 2010).

Maffia (2019) mentioned in his study that educational systems all over the world are promoting the development of the 21st century skills such as collaboration, communication, creativity, digital literacy, and self-directed learning. Anagun, Kilic, Atalay, and Yasar (2015) posited that for students to effectively deal with a more complex world in the 21st century, it is important that teachers and the school, in general, should prepare them for social and economic life by acquiring all these sub-skills of learning and innovation skills. In the study of Atalay and Boyaci (2019), they found that students will be able to develop and utilize creativity and innovation skills and will successfully develop the 4Cs, provided that they are given the proper facilitation process, materials, and genius hour during the course of the study using new technologies, and their creative imagination in creating products. The researchers noticed that a remarkable development on the students' learning and innovation skills was observed in each stage of the "Slowmation Application" also termed as "Slow Animation". This is an approach to teaching that utilized a multimodal digital representation, which is used to explain difficult concepts in bite-sized learning. In the planning, narrating, production, and reproduction stages, the students' critical thinking and problem-solving skills were developed in the process as they effectively communicated and collaborated with others in the accomplishment of the given task.

Zulkifi and Hashim (2020) conducted a study on the application of philosophy emphasizing the use of 4C that aims to develop students' potential to make use of their mental acts, thinking, reasoning, and judgment especially when they are solving problems. It was found that the 4C in students is less developed because the connection between reading and thinking is not fully established for the reason that they lack the intellectual stimulation that could strengthen and enhance their existing literary experience. In line with this finding, he pointed out that teachers must be knowledgeable in preparing critical thinking stimuli, questions, discussions, and learning opportunities that would increase students' engagement and active participation to enhance their critical thinking skills. Sharp, Green, and Lewis (2018) also stressed that the students' power of inquiry and motivation to think critically can be ignited only if teachers strategically design intriguing learning experiences that focus on issues and events which are commonly encountered by students.

Putri and Prodjosantoso (2020) conducted a quasi-experimental research in discovering the effectiveness of guided inquiry-based natural science comic media in teaching natural science subjects. The finding of the study unveiled that students' critical thinking skills, scientific attitudes, and competence achievement greatly improved when teachers used natural science comic media. The researchers believed that the students' motivation and understanding can be best improved when teachers used learning media to help process the discussions in order to facilitate the students' understanding and improve their creativity and critical thinking skills. Researchers pointed out that in order to fully develop the learners' 21st century skills, different teaching strategies, such as guided inquiry-based natural science comic media, problem-solving, blended learning, inquiry-based learning and collaborative learning as well as personalized learning and reflective teaching, are necessary (Rahman, 2019; Tavares, 2012; Lipman, 2017; Zulkifii & Hachim, 2020).

Another sub-skill of learning and innovation skills which is deemed important in the fast-changing world is problem-solving skill. In the words of Rahman (2019), problem solving is one of the fundamental human cognitive processes which help an individual find a way in achieving his desired goals. Graessel et al. (as cited by Stadler, Herborn, Mustafic, & Greiff, 2020) expressed that collaborative problem solving requires learners to possess sufficient cognitive problem-solving and social collaboration skills. Problem solving is the most essential ability required by society and is also considered as an important component in developing students' critical thinking skills for them to be able to face and cope with the challenges of the "K-society" (Rahman, 2019). Newland (2016) also claimed the same when he said that in this so-called "knowledge economy" society, where globalization and technological advancements are in focus, collaborative problem-solving adeptness among our learners should be developed since it is one of the skills considered as global currency of the 21st century. This was agreed on by Fiore, Graesser, and Greiff (2018), as cited in the works of Stadler, Herborn, Mustafic, and Greiff (2020), stating that all educational systems worldwide magnified the importance of training students in acquiring collaborative problem-solving skills since employers are looking forward to workers who can work as a team towards a certain goal with less supervision for the progress of their company. Similarly, Csapó, and Funke (2017) also highlighted the importance of problem solving in this very dynamic world that envisions progress which requires students' effective problem-solving behaviors.

Life and Career Skills. These skills include adaptability, flexibility, positivity, and acceptability which lead to the development of an individual to become self-regulated and intrinsically motivated. Trilling and Fadel (2009), as cited in the study of Salas-Pilco (2013), and Eryandi and Nuryanto (2020) agreed that life and career skills that include flexibility and adaptability; self-regulatory initiative; socio-cultural interaction; productivity and accountability; and leadership and responsibility are important in a productive learning process and are highly in demand in the "k-economy". Chalkiadaki (2018) indicated the same when he mentioned in his study that teachers must emphasize students' development in self-motivation and their ability to lead and to take initiative since these are regarded as very important skills in the job market. This is affirmed in the study of Succi and Canovi (2020) when they revealed that it is significant for every graduate to possess the so-called soft skills, which include life and career skills, for them to acquire and develop the essential skills to adapt to the changing world and increase employment opportunities.

Abdullah, Sumarwati, and Aziz (2020) also claimed that life and career skills are "must-have" skills because most employees consider them as the "key to employment " skills that applicants should possess in order to be hired. On a similar context, in a survey conducted by the Organization for Economic Cooperation and Development in 2013, the result revealed that it is vital for the 21st century workers to possess a wide range of information-processing skills and various "generic" skills which include interpersonal communication, self-management, and the ability to learn which are necessary for them to sustain the challenges that they may face in the changing world market (OECD, 2013). The same view was raised by Bridgstock (2009) as she acknowledged the importance of self-management and career building skills to lifelong career management to enhance employability.

The unemployment rate in Malaysia based on the data released by the office of the chief statistician in 2020 is increasing, and the said increase was found to be caused by the graduates' insufficient life and career skills, making them unprepared to face the challenges of the 21st century working environment (Abdullah et al., 2020). Moreover, Azmi, Hashim, and Yusoff (2018) also claimed the same when they stated that the new graduates are half-baked since they lack the technical knowledge, creative skills, teamwork skills, oral communication skills, and decision-making skills that are highly required by employers.

Digital Literacy (Information, Media, and Technology Skills). Digital literacy, as defined in the P21st Century framework, is a combination of concepts which include information literacy; media literacy; and information and communication technology literacy (P21st Century Skills framework as cited in Khlaisang & Koraneekij, 2019). The specifics of these sub-skills based on the works of Larraz (as cited in Esteve-Mon, Llopis, & Adell-Segura, 2020), include Information Literacy (the recognition of the need of information, its location, evaluation, organization, and transformation); Technological Literacy (hardware and software management and data processing in different formats); and Multimedia Literacy (analysis, understanding, and the creation of multimedia messages).

Partnership for the 21st Century Skills Organization advocated that shaping and developing students' digital competency should be given emphasis in all educational institutions around the globe since these are essential skills needed in meeting the

demands of the digital society (P21st Century Skills, 2018). Harper and Milman (2016) pointed out that developing students' digital competence enriches the students' learning experiences as they collaboratively work with teachers and other students. Calumba (2018), in his study on Evaluation of Teachers' Classroom Instruction, found that technology-based instruction creates a student-centered learning environment that promotes collaboration and cooperation among learners and teachers and that students are motivated to actively participate in classroom discussions and activities. He further added that using the iPad as a tool in classroom instruction provided a smooth flow in the delivery of lessons to students and offered fun and engaging learning experiences which lead to students' improved academic performance. Findikoglu and Ilhan (2016) postulated that innovation in education is the product of technology, and that technology aids in the transfer of learning to students and enhances teachers' creativity in producing instructional materials which also include production of authentic text materials to create more enhanced learning encounters. Umirova (2020) also acknowledged the importance of printed materials as a form of authentic text materials since these are full of necessary means of enhancing reading and vocabulary skills which promote learners' imagination and broaden their outlook.

Using technology as part of the teaching–learning process widens students' horizons as it provides them with the opportunity to collaborate with experts and other learners, create digital media, and utilize tools to meet their needs in attaining quality education (National Education Technology Plan, 2017). However, effective use of technology in shaping students' 21st century skills is dependent upon the teachers' successful integration of technology in the learners' learning environment (Varier, Dumke, Abrams, Conklin, Barnes, & Hoover, 2017). Dimkpa (2015) also added that powerful learning demands well-prepared teachers who draw advances in technology for them to become proficient in accessing and using information to help students appreciate learning.

The study of Esteve-Mon, Llopis, and Adell-Segura (2020) on Digital Competence and Computational Thinking of Student Teachers revealed that female student teachers have low computational and technological skills and are found to be digitally less competent than male student teachers. This only indicates that despite the efforts of all educational institutions in integrating digital competence training in their curriculum for student teachers to enable teaching such skills to their future learners successfully, a gender gap still exists in this component of the 21st century skills.

Facilitating students in their journey of acquiring the 21st century skills allowed them to be honed as career-ready and life-ready individuals who are prepared to meet the demands of the rapidly-changing economy (Di Benedetto & Myers, 2016).

Students' Profile. The students' profile that is considered in this study consist the information relevant to the students that may affect their performance in learning the 21st century skills. These include the respondents' sex and type of junior high school completed.

In the study of Goodpasture and Speece (2014), they found that women had more developed critical thinking skills than men. This finding is congruent with the PISA 2018 result which revealed that the science literacy of girls is higher than that of

the boys (Cordon & Polong, 2020). The same finding is revealed in the Trends in International Mathematics and Science Study (TIMSS), which showed that female students perform significantly better than males in Mathematics and Science (Mullis, Martin, Foy, Kelly, & Fishbein, 2020). Southeast Asia Primary Learning Metrics unveiled the same when they reported that female learners perform better in Reading and Writing and in Mathematics (UNICEF-SEAMEO, 2020).

Moreover, Abdullah et al. (2020) discovered in their study that in terms of life and career skills in areas such as flexibility and adaptability; social and cross-cultural skills; productivity and accountability skills; and responsibility and leadership skills, male students were found to be better than female students, but both sexes possessed the same level of initiative and self-direction skills. They stated that both male and female learners are capable of meeting goals on time and managing workloads effectively using varied strategies.

In another study conducted by Esteve-Mon et al. (2020), they disclosed that male student teachers possessed better computational and technological skills than female student teachers and that they are also more digitally competent than the females. The result agrees with the data revealed in the survey of OECD in 2013 which also claimed that men have higher scores in numeracy and problem solving in technology-rich environment than women, but the gap is not so large. Contrary to these findings, the study conducted by Lopes, Costa, Araujo, and Avila (2018) revealed that in terms of media, information, and technological skills, males and females don't show any significant difference.

On the other hand, in terms of type of schools graduated from, the PISA result unveiled that literacy skills among students in the private schools are significantly better than those who are in the public schools (OECD, 2011). In a study conducted by Ahmed, Ahmed, and Butt (2017) on the Comparative Study of Students' Academic Performance between Private and Public Higher Secondary Schools of Wah Cantt, they disclosed the same that private high school students performed better than public school students. This is affirmed in the results revealed by Natamba (2019) when he claimed that private schools have higher academic performance than public schools. Contrary to these findings, Magulod (2017) in his study on Factors of School Effectiveness and Performance of Selected Public and Private Elementary Schools claimed that public school students' academic performance is better than the private schools.

Issues and Challenges of the 21st Century Skills. The 21st century learning environment provides students the opportunities to develop their abilities to work with others and be engaged in the analysis and interpretation of data, presentation of arguments from the evidence gained, and designing scientific investigations to discover solutions (Donovan et al., 2014). The same idea is also presented by McCoog (2008), as cited in Boholano (2017), when he postulated that in order to acquire 21st century skills, students must be encouraged to create new ideas, evaluate and analyze the material presented, and apply that knowledge to their previous academic experiences.

Research findings suggest that the lower level of cognitive skills in science learning is caused by several factors. Zawilinski (2009), for instance, stressed that one

of the important components to consider in science education is the nature of its curriculum, because this dictates the competency that gives the students the opportunity to be actively engaged in higher-order thinking skills to improve their critical thinking and problem-solving abilities for them to fully understand how Science as a discipline works for the progress of the society. Another important factor to consider for effective science instruction is the learning environment where students interact with peers, classmates, and teachers and grab the chance in developing their cognitive skills. It is the appropriate venue where science education students could have the opportunity to begin thinking like scientists by engaging them in the process of thinking instead of merely ingesting the product of the scientific discoveries (Bushman & Peacock, 2010; Gillies et al., 2014).

The study of Amran, Perkasa, Satriawan, Jasin, and Irwansyah (2019) revealed that students' critical thinking ability is very low. This is because during the time of the learning process, teachers very rarely train students' critical thinking skills. Teachers only teach the concept and summative evaluation. Furthermore, they also found out that students' communication ability is categorized as low. This is because the model and method of learning that teachers use in teaching does not encourage students to develop communication and collaboration skills (as cited in Amran et al., 2019). Another study conducted by Bektas, Sellum, and Polat (2019) discovered that the students' communication and collaboration skills are good and sufficient, but they failed to develop their problem-solving, critical thinking, and creative thinking skills because teachers only provided limited learning experiences to develop these areas. The study conducted by Refugio, Galleto, and Torres (2019) found the same when they revealed that teachers also encountered challenges in teaching General Mathematics especially on problem solving because students have poor comprehension and vocabulary skills and they lack the ability to analyze; thus, they encountered difficulty in formulating the right equation.

Furthermore, according to several researchers, information literacy skills are not well taught in schools which leads to students' failure of developing such skills, hindering them to become critical and efficient users of information both printed and online informational texts (Combes, 2009; Ladbrook & Probert, 2011). They further stated that teachers were not able to successfully transmit information literacy skills because the teachers themselves also lack this knowledge. The same view is claimed by Wertz et al. (2013) when he said that information literacy was not well taught in secondary schools in New Zealand which resulted in a poor improvement in the students' information literacy skills.

Moreover, Azmi, Hashim, and Yusoff (2018) also stressed that the new graduates are half-baked since they lack the technical knowledge, creative skills, teamwork skills, oral communication skills, and decision-making skills that are highly required by employees. Meanwhile, in the study of Eryandi and Nuryanto (2020), it was revealed that students showed expertise in terms of applying life and career skills in the field of engineering, but their teachers are not as efficient as them.

The education system needs to facilitate the transition process of producing a future workforce that is equipped with the knowledge and skills to face the challenges of the 21st century (Karpudewan, 2019). One of the challenges of the 21st century is the requirement for the workers to analyze, synthesize, and evaluate any given

situation. In other words, the 21st century reinforces the fact that higher-order thinking skills must be taught to the current students' future global workforce (Osborne, 2013). The teachers must equip students with the necessary 21st century skills that would prepare them to become successful individuals in life (Wijayati, Sumarni, & Supanti, 2019). Teachers should make use of certain learning methods to help students acquire those skills (Haviz, Karomah, Delfita, Umar, & Maris, 2018).

Good teachers should know what the students need; therefore, they have to conduct research in their class (Schenzel, 2013) and optimize teacher-student dialogue (Kinchin, 2010). Teachers should be able to design a lesson that is capable of developing 21st century skills so that students are equipped with the four important aspects, namely: critical thinking skills, creative thinking skills, collaborative skills, and communicative skills (Amran et al., 2019).

Furthermore, Chu et al. (2012) stressed that educators have to continue modifying their teaching goals in order to provide students with the skills they need to contribute to their societies. As Black (2009) mentioned, with the acceleration of digital technology development in the 21st century, people are required to be equipped with skills and literacy that are important in this information age.

Research Questions

This study aims to determine the extent to which teachers' practiced the 21st century skills and the Senior High School students' academic performance in their core subjects.

Specifically, it endeavors to answer the following sub-problems:

1. To what extent do the teachers practice the 21st century skills as perceived by the students in terms of the following areas:
   1.1 Learning and Innovation Skills;
   1.2 Information, Media, and Digital Literacy Skills; and
   1.3 Life and Career Skills?
2. What is the Grade 12 students' academic performance in the following core subjects:
   2.1 Oral Communication
   2.2 Komunikasyon at Pananaliksik;
   2.3 Personal Development;
   2.4 General Mathematics;
   2.5 Reading and Writing;
   2.6 Pagbasa;
   2.7 Understanding Culture;
   2.8 Statistics;
   2.9 21st Century Literature from the Philippines and the World;
   2.10 Philosophy of the Human Person;
   2.11 Philippine Arts;
   2.12 Earth and Life Science;
   2.13 Media and Information Literacy; and
   2.14 Physical Science/Disaster Risk Reduction?
3. Is there a significant relationship between the extent to which teachers practiced the 21st century skills as perceived by the students and the Senior High School students' academic performance in the core subjects?

4. Is there a significant relationship between the Senior High School students' academic performance in the core subjects and their profile in terms of:
   4.1 sex; and
   4.2 Type of Junior High School completed from?

Statement of the Null Hypotheses

H_{01}: There is no significant relationship between the extent to which teachers practiced the 21st century skills as perceived by the students and the Senior High School students' academic performance in their core subjects.

H_{o2}: There is no significant relationship between the Senior High School students' academic performance in the core subjects and their profile.

METHODOLOGY

Research design. The descriptive–correlational design is utilized in the study. The academic performance of the Senior High School students in the 14 core subjects which measured the students' gained competence of the 21st century skills and their perceptions of their teachers' extent of practices of the 21st century skills in the classroom were described. It is correlational as well, since variables such as the extent of teachers' practices of the 21st century skills and Senior High School students' academic performance in the core subjects were correlated.

Research environment. The data-gathering process concerning students' grades was conducted in Foundation Preparatory Academy, which offers the university's basic education program. Foundation Preparatory Academy is in Dr. V. Locsin Street, Dumaguete City, Negros Oriental. Being one of the known private high schools in this so-called "university town", it offers quality education with emphasis on the use of technology. In its quest for excellence in mind, body, and character, the school utilizes the iPad as a tool in the teaching–learning process. Classrooms are fully air-conditioned and are equipped with flat screen televisions which are used for airplay, projecting what is shown in the iPad to the screen.

The respondents of the study are the Senior High School graduates of Foundation Preparatory Academy, Dumaguete City Division, for the academic years 2017–2018, 2018–2019, and 2019–2020. They are the first three batches of Senior High School students under the K-12 curriculum who graduated from the Foundation Preparatory Academy. Out of 1,318 graduates, 348 of them answered the questionnaires in Google forms sent via messenger. This number is enough to represent the population using the sampling formula. These students took up the Academic Track, Technical and Vocational Track, and Arts and Design Track.

Research instruments. The researcher used the grades of the three batches of Senior High School students who graduated from Foundation Preparatory Academy during the academic years 2017–2018; 2018–2019; and 2019–2020.

An adopted open-source questionnaire from Bukidnon State University was also utilized in the study to determine the teachers' extent of practice of the 21st century

skills in their classroom as perceived by their students. The questionnaire is composed of two parts. The first part is the student respondents' profile which includes their sex and type of junior high school where one completed from. The second part is focused on the practices of teachers of the 21st century skills in delivering instruction in the classroom and is composed of three areas, namely: learning and innovation skills; information, media, and technology skills; and life and career skills.

The entire questionnaire was presented to three experts for content validity and cross checking if the items are aligned with the specific problems of the study.

To ensure item reliability, a dry-run was also conducted. There were 30 students who served as the respondents. Using Cronbach's Alpha Test, results revealed the following reliability coefficients: 0.809 for Learning and Innovation Skills; 0.765 for Information and Media and Digital Literacy Skills; and 0.813 for Life and Career Skills. These figures were greater than 0.70 which implied that items were reliable.

Research procedure. The researcher at first sought for approval from the Dean of the Graduate School of Foundation University for the administration of her questionnaire to the respondents of her study who graduated from Foundation Preparatory Academy and are now in their college years at the different colleges and universities in the Philippines. After which, the researcher asked from the Foundation Preparatory Academy Guidance Office, with the approval of the principal, for the complete list of the three batches of Senior High School graduates for her reference in reaching out to them for the floating of her questionnaires.

Furthermore, the researcher wrote a letter through email to the authors asking permission on the use of the questionnaire. The questionnaire was encoded in Google forms so that it could be accessed by the respondents easily via messenger and Facebook.

A letter of formal request asking for the grades of the Senior High School graduates was sent to the Principal of Foundation Preparatory Academy upon the endorsement of the Dean of the Graduate School of Foundation University. The signed and approved request, together with another letter of request addressed to the Dean of Admission and Records, was given to the registrar's office asking permission to access the grades of the Senior High School graduates of academic years 2017–2018; 2018–2019; and 2019–2020 who responded the researchers' questionnaire sent in Google forms via messenger.

Statistical Treatment of Data

The statistical tools that the researcher utilized in this study are the following:

Chi-square. This was used to identify the relationship between the students' profile (sex and junior high school completed from) and their academic performance in their Senior High School core subjects. This test is applicable since the profile is in nominal scale.

Mean. This was used in getting the average rating of students' academic performance in their Senior High School core subjects. This was also used in determining the teachers' extent of practice of the 21st century skills in their classrooms as perceived by the students.

Spearman Rank-Order Correlation Coefficient. This was utilized to identify the degree of relationship between the teachers' extent of practice of the 21st century skills as perceived by the students and the students' academic performance in their Senior High School core subjects. This test was selected again since the data are in ordinal scale.

The academic performance of the Senior High School students in the core subjects is based on the following criteria (DepEd Order No. 8, s. 2015).

Rating	Verbal Equivalent	Explanation
90% and above	Outstanding	The learner at this level exceeds the core requirements in terms of knowledge, skills, and understanding, and can transfer them automatically and flexibly through authentic performance tasks.
85-89%	Very Satisfactory	The learner at this level has developed the fundamental knowledge and skills and core understanding, and can transfer them independently through authentic performance tasks.
80-84%	Satisfactory	The learner at this level has developed the fundamental knowledge and skills and core understanding, and with little guidance from the teacher and/or with some assistance from peers, and can transfer these understandings through authentic performance tasks.
75-79%	Fairly Satisfactory	The learner at this level possesses the minimum knowledge and skills and core understandings but needs help throughout the performance of authentic tasks.
74% and below	Did Not Meet Expectation	The learner at this level struggles with his/her understanding; pre-requisite and fundamental knowledge and/or skills have not been acquired or developed adequately to aid understanding.

The Teachers' Extent of Practice of the 21st century skills is quantified according to the following scale:

Score	Verbal Description	Extent of Practice	Scale	Explanation
7	Always	Very High	6.15 – 7.00	The domains of the 21st century skills are practiced by the teachers 87–100% of the time.
6	Usually	High	5.29 – 6.14	The domains of the 21st century skills are practiced by the teachers 73–86% of the time.
5	Frequently	Somewhat High	4.43 – 5.28	The domains of the 21st century skills are practiced by the teachers 59–72% of the time.
4	Sometimes	Moderate	3.57 – 4.42	The domains of the 21st century skills are practiced by the teachers 43–58% of the time.
3	Occasionally	Somewhat Low	2.71 – 3.56	The domains of the 21st century skills are practiced by the teachers 29–42% of the time.
2	Rarely	Low	1.85 – 2.70	The domains of the 21st century skills are practiced by the teachers 15–28% of the time.
1	Never	Very Low	1.00 – 1.84	The domains of the 21st century skills are practiced by the teachers 1–14% of the time.

Scope of the study. This study primarily focused on the extent of teachers' practices of the 21st century skills in the delivery of their classroom instructions and the Senior High School students' academic performance in their core subjects. Students' profile, which include sex and type of junior high school completed from, are also included as variables in this study since these are also believed to influence students' academic performance.

Limitations of the study. The study utilized the three batches of grade 12 students who graduated from Foundation Preparatory Academy for the academic years 2017–2018; 2018–2019; and 2019–2020. Since these students are now studying at different colleges and universities in Negros Oriental, Cebu, and as far as Manila and Mindanao, the students' responses in answering the questionnaires as to

the extent to which their Senior High School teachers practiced the 21st century skills were limited; the researcher only counted on the students who could still be reached through social media (messenger and Facebook).

Since this study used a questionnaire in Google form, as an instrument in gathering the data on students' perceptions, the researcher relied on the honesty of the students in answering every item or indicator in the questionnaire, especially that they answered the questionnaire electronically. Hence, there can be a trace of bias.

RESULTS

Table 1.1

Teachers' Extent of Practice as Perceived by the Students in the area of Learning and Innovation Skills of the 21st Century Skills (n = 348)

My teachers…	$w\bar{x}$	VD	EIP
1. Create collaborative group activities to encourage participation and shared leadership.	6.20	A	VH
2. Provide learners with performance standards by which their work will be evaluated.	6.08	U	H
3. Bring together relevant information and perspectives to inform thoughts, actions, or beliefs of learners.	6.05	U	H
4. Synthesize and interpret information by asking essential questions that help clarify a path towards better solutions.	6.04	U	H
5. Respect the views of learners and others when expressing opinions or ideas without bias.	6.02	U	H
6. Allow an open conference style of interaction rather than the one-way seating of traditional desk.	5.95	U	H
7. Focus on project-based learning which enables learners to put knowledge together in the form of focused questions and assessments for the project.	5.93	U	H
8. Brainstorm and seek out opportunities for learners to improve their ideas and on the way they react to situations.	5.91	U	H
9. Support or empower learners who are reluctant to share their knowledge or views.	5.90	U	H
10. Use engaging instructional strategies suitable to instructional purposes and learners' levels and learning styles.	5.89	U	H
11. Select problems that are applicable to real-life situations and let the learners find solutions for it.	5.89	U	H
12. Ensure that a more comprehensive approach to inquiry that includes reflection is used in the classroom.	5.88	U	H
13. Consider contexts or incorporate different perspectives to evaluate thoughts or actions.	5.88	U	H
14. Guide the learners in examining reliability, bias, or credibility of claims by means of giving activities that suit to it.	5.86	U	H
15. Facilitate the learners in organizing, classifying, questioning, or evaluating the work of their classmates.	5.82	U	H
16. Observe the learners while they are having the self-learning in the classroom.	5.81	U	H
17. Break problems into smaller or simpler parts and develop criteria in solving problems.	5.81	U	H

18. Make graphic organizers to illustrate difficult topics.	5.79	U	H
19. Manipulate models and simulations for the learners to experiment and create new ideas.	5.78	U	H
20. Prepare some worksheets for the learners to answer after watching relevant videos.	5.74	U	H
Composite	5.91	U	H

Legend:	Range	Verbal Description (VD)	Extent of Instructional Practice (EIP)
	6.15 – 7.00	Always (A)	Very High (VH)
	5.29 – 6.14	Usually (U)	High (H)
	4.43 – 5.28	Frequently (F)	Somewhat High (SH)
	3.57 – 4.42	Sometimes (S)	Moderate (M)
	2.71 – 3.56	Occasionally (O)	Somewhat Low (SL)
	1.85 – 2.70	Rarely (R)	Low (L)
	1.00 – 1.84	Never (N)	Very Low (VL)

Table 1.2

Teachers' Extent of Practice as Perceived by the Students in the area of Information, Media, and Digital Literacy of the 21st Century Skills (n = 348)

My teachers…	$w\bar{x}$	VD	EIP
1. Communicate to students by means of social media.	6.24	A	VH
2. Access internet resources for planning instruction or collecting ideas.	6.23	A	VH
3. Educate learners on how to use computers for learning.	6.15	A	VH
4. Find resources such as databases, documentary films, and websites to be utilized in class as sources of information.	6.12	U	H
5. Provide opportunities for learners to gather information online.	6.12	U	H
6. Make internet as a tool for giving learners assessments and assignments.	6.11	U	H
7. Use PowerPoint presentation with moving clip art or animation for them to feel and catch the attention of the students.	6.08	U	H
8. Help the learners recognize the false information in all forms of media.	6.05	U	H
9. Participate in accessing information in an effective manner which is related to the learners' learning.	6.04	U	H
10. Incorporate and integrate different forms of media into instruction.	6.04	U	H
11. Encourage collaborative learning in order to participate effectively and generate valuable information.	6.01	U	H
12. Offer a variety of ways for learners to repackage information and authentic media learning experience.	6.01	U	H
13. Update students on educational trends and issues through internet access.	5.98	U	H
14. Help the learners appreciate literature and other creative expressions of information.	5.97	U	H
15. Utilize the e-class record in determining learners' achievements.	5.95	U	H
16. Use ICT in creating materials for learners' use.	5.94	U	H

17. Evaluate the resources and the available information.	5.93	U	H
18. Submit computer-generated reports.	5.91	U	H
19. Use interactive technology for learning such as school-purchased instructional software.	5.91	U	H
20. Make printed materials in remediation for slow learners.	5.31	U	H
Composite	6.01	U	H

Legend: Range	Verbal Description (VD)	Extent of Instructional Practice (EIP)
6.15 – 7.00	Always (A)	Very High (VH)
5.29 – 6.14	Usually (U)	High (H)
4.43 – 5.28	Frequently (F)	Somewhat High (SH)
3.57 – 4.42	Sometimes (S)	Moderate (M)
2.71 – 3.56	Occasionally (O)	Somewhat Low (SL)
1.85 – 2.70	Rarely (R)	Low (L)
1.00 – 1.84	Never (N)	Very Low (VL)

Table 1.3

Teachers' Extent of Practice as Perceived by the Students in the area of Life and Career Skills of the 21st Century Skills (n = 348)

My teachers……..	$w\bar{x}$	VD	EIP
1. Respect cultural differences and work effectively with people from a range of social and cultural backgrounds.	6.28	A	VH
2. Give value and respect to other people's opinions, ideas, and beliefs.	6.26	A	VH
3. Has the innate ability to inspire, energize, and encourage the learners and everyone.	6.21	A	VH
4. Build harmonious relationships with the learners by knowing when to talk and when to listen.	6.17	A	VH
5. Collaborate and cooperate effectively with team.	6.15	A	VH
6. Treat each learner as an individual deserving of respect and not as a representative of a group.	6.14	U	H
7. Establish commitment to learning as a lifelong process.	6.14	U	H
8. Ensure that learners' differences are accepted and the needs of individual learners are addressed to the best extent possible, regardless of their background.	6.13	U	H
9. Practice cooperative learning by encouraging cooperative learning tasks and discouraging negative competition among learners.	6.13	U	H
10. Delegate some tasks that learners can easily do on their own.	6.10	U	H
11. Able to adapt to any changes that may occur in the learning environment.	6.07	U	H
12. Participate in trainings that promote peace and understanding of cultural diversity.	6.06	U	H
13. Reflect critically on past experiences in order to inform future progress.	6.06	U	H
14. Keep things balanced, not only tasks and responsibilities, but also the diverse views and belief to reach workable solutions, particularly in a multicultural environment.	6.03	U	H
15. Negotiate to teach a peaceable resolution or compromise acceptance to everyone.	6.03	U	H

16. Design learning activities that reflect the different backgrounds and needs of the students.	6.01	U	H
17. Go beyond basic mastery of the skills and curriculum to explore and expand one's own learning and opportunities to gain expertise.	6.00	U	H
18. Utilize time and manage workload efficiently.	5.97	U	H
19. Select materials that reflect the different backgrounds and needs of the learners.	5.96	U	H
20. Manage and document conflicts that arise in the classroom.	5.90	U	H
Composite	6.09	U	H

Legend: Range	Verbal Description (VD)	Extent of Instructional Practice (EIP)
6.15 – 7.00	Always (A)	Very High (VH)
5.29 – 6.14	Usually (U)	High (H)
4.43 – 5.28	Frequently (F)	Somewhat High (SH)
3.57 – 4.42	Sometimes (S)	Moderate (M)
2.71 – 3.56	Occasionally (O)	Somewhat Low (SL)
1.85 – 2.70	Rarely (R)	Low (L)
1.00 – 1.84	Never (N)	Very Low (VL)

Table 2

Senior High School Students' Academic Performance in Core Subjects (n = 348)

Core Subjects	Mean	Sd	Verbal Description
1. Media and Information Literacy	92.25	3.96	Outstanding
2. Personal Development	92.21	5.33	Outstanding
3. Contemporary Philippine Arts from the Regions	91.80	4.61	Outstanding
4. Earth and Life Science/Earth Science	91.41	4.54	Outstanding
5. Physical Science/Disaster Risk Reduction and Management	91.22	4.66	Outstanding
6. Pagbasa at Pagsulat ng ibat-ibang texto tungo sa Pananaliksik	90.92	4.99	Outstanding
7. Oral Communication	90.38	4.54	Outstanding
8. Komunikasyon at Pananaliksik sa Wika at Kulturang Filipino	90.35	3.60	Outstanding
9. Understanding Culture, Society, and Politics	89.78	4.94	Outstanding
10. General Mathematics	89.64	4.68	Outstanding
11. Statistics and Probability	89.62	5.15	Outstanding
12. Introduction to Philosophy of the Human Person	89.26	4.46	Very Satisfactory
13. 21st Century Literature from the Philippines and the World	88.89	6.07	Very Satisfactory
14. Reading and Writing	87.65	5.48	Very Satisfactory
Average	90.38	4.79	Outstanding

Legend: Rating	Verbal Description
90% - 100%	Outstanding
85% - 89%	Very Satisfactory
80% - 84%	Satisfactory
75% - 79%	Fairly Satisfactory
74% and Below	Did Not Meet Expectations

Table 3

Relationship between Teachers' Extent of Practice of the 21st Century Skills as Perceived by the Students and Students' Academic Performance in the Core Subjects (n = 348)

Core Subjects	Learning & Innovation Skills	Info., Media & Literacy Skills	Life and Career Skills	Overall
1. Oral Communication	r_s = 0.012 p = 0.818 (not significant)	r_s = 0.055 p = 0.309 (not significant)	r_s = 0.041 p = 0.443 (not significant)	r_s = 0.036 p = 0.509 (not significant)
2. Komunikasyon at Pananaliksik sa Wika at Kulturang Filipino	r_s = -0.042 p = 0.435 (not significant)	r_s = -0.003 p = 0.955 (not significant)	r_s = -0.023 p = 0.672 (not significant)	r_s = -0.030 p = 0.577 (not significant)
3. Personal Development	r_s = -0.091 p = 0.089 (not significant)	r_s = -0.045 p = 0.403 (not significant)	r_s = -0.076 p = 0.158 (not significant)	r_s = -0.086 p = 0.111 (not significant)
4. General Mathematics	*r_s = -0.116* *p = 0.030* *(significant)*	r_s = -0.084 p = 0.118 (not significant)	r_s = -0.061 p = 0.256 (not significant)	r_s = -0.099 p = 0.065 (not significant)
5. Reading and Writing	r_s = 0.027 p = 0.619 (not significant)	r_s = 0.004 p = 0.941 (not significant)	r_s = 0.002 p = 0.976 (not significant)	r_s = -0.017 p = 0.751 (not significant)
6. Pagbasa at Pagsulat ng ibat-ibang texto tungo sa Pananaliksik	r_s = -0.022 p = 0.681 (not significant)	r_s = 0.002 p = 0.972 (not significant)	r_s = 0.005 p = 0.932 (not significant)	r_s = -0.013 p = 0.808 (not significant)
7. Understanding Culture, Society and Politics	r_s = -0.056 p = 0.297 (not significant)	r_s = -0.055 p = 0.305 (not significant)	r_s = -0.035 p = 0.512 (not significant)	r_s = -0.061 p = 0.259 (not significant)
8. Statistics and Probability	r_s = 0.015 p = 0.782 (not significant)	r_s = 0.023 p = 0.667 (not significant)	r_s = 0.018 p = 0.739 (not significant)	r_s = 0.016 p = 0.772 (not significant)
9. 21st Century Literature from the Philippines and the World	r_s = -0.025 p = 0.635 (not significant)	r_s = 0.003 p = 0.951 (not significant)	r_s = 0.025 p = 0.648 (not significant)	r_s = -0.010 p = 0.852 (not significant)
10. Introduction to Philosophy of the Human Person	*r_s = -0.108* *p = 0.045* *(significant)*	r_s = -0.086 p = 0.109 (not significant)	r_s = -0.096 p = 0.072 (not significant)	*r_s = -0.115* *p = 0.033* *(significant)*
11. Contemporary Philippine Arts from the Regions	r_s = 0.073 p = 0.175 (not significant)	r_s = 0.088 p = 0.100 (not significant)	r_s = 0.075 p = 0.162 (not significant)	r_s = 0.080 p = 0.138 (not significant)
12. Earth and Life Science /Earth Science	r_s = -0.064 p = 0.232 (not significant)	r_s = -0.031 p = 0.568 (not significant)	r_s = 0.025 p = 0.637 (not significant)	r_s = -0.050 p = 0.349 (not significant)
13. Media and Information Literacy	r_s = -0.061 p = 0.255 (not significant)	r_s = 0.070 p = 0.192 (not significant)	r_s = 0.048 p = 0.369 (not significant)	r_s = 0.058 p = 0.285 (not significant)
14. Physical Science/Disaster Risk Reduction and Management	r_s = -0.035 p = 0.520 (not significant)	r_s = -0.012 p = 0.822 (not significant)	r_s = -0.031 p = 0.561 (not significant)	r_s = -0.031 p = 0.563 (not significant)
Average	r_s = -0.042 p = 0.432 (not significant)	r_s = 0.007 p = 0.896 (not significant)	r_s = -0.012 p = 0.818 (not significant)	r_s = -0.031 p = 0.563 (not significant)

Level of significance = 0.05

Table 4

Relationship between Students' Profile and their Academic Performance in the Core Subjects (n = 348)

Core Subjects	Sex	Mean	Type of JHS	Mean
1. Oral Communication	*x^2 = 8.447 p = 0.005 (significant)*	Male: 89.53 Female: 90.94	*x^2 = 9.610 p = 0.008* (significant)	Private: 89.53 Public: 91.23
2. Komunikasyon at Pananaliksik sa Wika at Kult. Fil.	*x^2 = 23.158 p = 0.000 (significant)*	Male: 89.36 Female: 91.00	x^2 = 3.941 p = 0.139 (not significant)	Private: 89.94 Public: 90.76
3. Personal Development	x^2 = 3.357 p = 0.187 (not significant)	Male: 91.65 Female: 92.58	*x^2 = 9.537 p = 0.008 (significant)*	Private: 91.15 Public: 93.26
4. General Mathematics	x^2 = 3.009 p = 0.222 (not significant)	Male: 89.21 Female: 89.94	x^2 = 1.660 p = 0.436 (not significant)	Private: 89.24 Public: 90.04
5. Reading and Writing	x^2 = 4.336 p = 0.114 (not significant)	Male: 87.06 Female: 88.04	x^2 = 0.959 p = 0.619 (not significant)	Private: 87.43 Public: 87.86
6. Pagbasa at Pagsulat ng ibat-ibang Texto tungo sa Pananaliksik	*x^2 = 9.962 p = 0.007 (significant)*	Male: 89.79 Female: 91.67	x^2 = 4.257 p = 0.119 (not significant)	Private: 90.08 Public: 91.76
7. Understanding Culture, Society and Politics	*x^2 = 6.119 p = 0.047 (significant)*	Male: 88.81 Female: 90.42	x^2 = 1.707 p = 0.436 (not significant)	Private: 89.46 Public: 90.09
8. Statistics and Probability	*x^2 = 8.247 p = 0.016 (significant)*	Male: 88.53 Female: 90.34	x^2 = 5.250 p = 0.072 (not significant)	Private: 88.84 Public: 90.39
9. 21st Century Lit. from the Philippines and the World	*x^2 = 8.039 p = 0.018 (significant)*	Male: 87.65 Female: 89.74	x^2 = 2.252 p = 0.324 (not significant)	Private: 88.83 Public: 88.98
10. Introduction to Philosophy of the Human Person	*x^2 = 17.733 p = 0.000 (significant)*	Male: 88.06 Female: 90.05	x^2 = 0.589 p = 0.754 (not significant)	Private: 89.23 Public: 89.28
11. Contemporary Philippine Arts from the Regions	x^2 = 3.520 p = 0.172 (not significant)	Male: 91.31 Female: 92.12	x^2 = 3.323 p = 0.190 (not significant)	Private: 91.13 Public: 92.47
12. Earth and Life Science/Earth Science	*x^2 = 13.655 p = 0.001 (significant)*	Male: 90.34 Female: 92.11	*x^2 = 7.210 p = 0.027* (significant)	Private: 90.65 Public: 92.16
13. Media and Information Literacy	*x^2 = 6.164 p = 0.046 (significant)*	Male: 91.54 Female: 92.73	x^2 = 0.271 p = 0.873 (not significant)	Private: 91.95 Public: 92.55
14. Physical Science/ Disaster Risk Reduction & Mgt	*x^2 = 9.322 p = 0.009 (significant)*	Male: 90.42 Female: 91.76	x^2 = 2.817 p = 0.244 (not significant)	Private:90.77 Public: 91.68
Average	*x^2 = 13.560 p = 0.001 (significant)*	Male: 89.52 Female: 90.96	*x^2 = 7.122 p = 0.028 (significant)*	Private: 89.87 Public: 90.89

Level of significance = 0.05

DISCUSSION

Shown in Table 1.1 on the next page is the extent to which teachers practiced the 21st century skills as perceived by their students in the area of Learning and Innovation Skills. It can be noticed that indicator no.1 on creating collaborative group activities to encourage participation and shared leadership got the highest weighted mean of 6.20 which is Very High. Moreover, the data display that Senior High School students observed that their teachers have Highly practiced the rest of the indicators with mean ratings ranging from 5.74 to 6.08, such as: (a) providing learners with performance standards; (b) bringing together relevant information;
(c) synthesizing and interpreting information by asking essential questions; (d) respecting the views of learners; (e)allowing an open conference style; (f) focusing on project-based learning; and other indicators as reflected in the data. The result suggests that the FPA educators teaching the young generation of today made a shift from the traditional way of teaching, in which students will just sit at a corner and passively listen, to the “constructivists” approach wherein learners actively participate through collaboration with others, not just for their own learning but also for the development of their collaboration skills.

It can be deduced from these results that the teachers act as facilitators of learning, while the opportunities to learn and explore are given to the students. The findings are in agreement to Magno et al. *(*2016*),* when they suggested that teachers should set a learning environment where authentic learning opportunities are provided to develop the learners’ potentials and capabilities to their fullest extent and to produce proficient individuals bestowed with the 21st century skills. Atalay and Boyaci (2019) also pointed out that students could successfully develop learning and innovation skills when they are properly facilitated by their teachers and appropriate instructional materials and learning environment are provided.

The result reveals that the teachers’ overall extent of practice on learning and innovation skills is High, with a composite weighted mean of 5.91. This entails that the students are able to observe that their teachers practiced the domains of the 21st century skills, which include Collaboration, Creativity and Innovation, Communication, and Critical Thinking and Problem Solving (4Cs), 73%–86% of the time in their delivery of teaching.

This finding is in line with the works of Stadler et al. (2020), where they highlighted that all learning institutions should magnify the importance of training students’ collaborative problem-solving skills as employers put high regard to workers who can work as a team to produce high-quality outcomes. Newland (2016) claimed the same when he stressed that there is an urgent need for students to develop collaborative problem-solving adeptness for this is one of the skills that is considered as global currency of the 21st century. These assertions are further strengthened by Anagun et al. (2015) who posited that it is vital for teachers and the school to prepare students for social and economic life by equipping them with all the sub-skills of Learning and Innovation skills for them to successfully thrive.

Presented in Table 1.2 are the data on teachers' extent of practice of the 21st century skills in the area of Information, Media, and Digital Literacy Skills. The result reflects that the Senior High School students agreed that their teachers Highly practiced the area on Information, Media, and Literacy Skills, as shown in its composite weighted mean of 6.01. It can be gleaned from the data, specifically indicators 1, 2, and 3, that the students witnessed that their teachers' extent of practices in terms of (a) communicating to students by means of social media; (b) accessing internet resources for planning instruction or collecting ideas; and (c) educating learners on how to use computers for learning is Very High. It is observable from the result that teachers teach their students flexibility and self-directed learning to reinforce students' abilities to explore and search valid information. This indicates that teachers put emphasis in the use of digital tools as means of supporting active interaction with their students for a dynamic and productive learning environment.

In the 2017 update of the National Education Technology Plan, it was highlighted that using technology in instructional learning increases students' opportunity to attain quality learning through collaboration and utilization of digital media and tools. In line with this, Varier et al. (2017) prompted teachers that the effective integration of technology in classroom instruction must be observed to successfully shape the learners' 21st century skills. Dimkpa (2015) also added that powerful learning demands well-prepared teachers who draw advances in technology for them to become proficient in accessing and using information to help students appreciate learning. The use of technology creates a learning environment where the learners are placed at the center of the educative process and are made to realize that they are responsible for their own learning.

Furthermore, it can also be seen from the presented data that Senior High School students rated High in most of the indicators, as evidenced by the values of their weighted mean ranging from 5.31 to 6.12 which include: (a) finding resources such as databases, documentary films, and websites to be utilized in class; (b) providing opportunities to learners to gather information; (c) making internet as a tool for assessments; (d) using PowerPoint presentation with animation; (e) helping learners recognize false information in all forms of media; (f) participating in assessing information in an effective manner which is related to the learners' learning; (g) incorporating and integrating different forms of media in classroom teaching; (h) encouraging collaborative learning in order to participate actively and generate valuable information; (i) offering a variety of ways for learners to repackage information and authentic media learning experience; and others.

Moreover, it can be noted that making printed materials in remediation for slow learners is rated the lowest, as shown in its weighted mean of 5.31. The result can be ascribed to the current nature of the 21st century classroom where misconceptions arise because some teachers, including learners, believed that since they are already well grounded in digital technology, printed materials are not any more effective and suited to them. This idea contrasts the findings of Omirova (2020) as she disclosed that printed materials are important to enrich students' reading and comprehension skills because they bear interesting and real features for learners to learn new things autonomously, thus leading to a more meaningful learning.

Shown in Table 1.3 is the result on the extent to which teachers practiced the 21st century skills on the area of Life and Career Skills. As indicated in the results, Foundation Preparatory Academy teachers Highly practiced Life and Career Skills in their 21st century instruction. Life and Career Skills support every individual's journey to successfully deal with the challenges of life, thus providing a strong foundation to overcome and thrive in this very dynamic society. The findings infer that the teachers cultivate in learners the ability to traverse the complex life and explore the very competitive world brought about by the industrial revolution 4.0. Dimkpa (2015) believed that when teachers practice Life and Career Skills to a high extent, it follows that students also demonstrate strong life and career skills which they can apply in the workplace. Abdullah et al. (2020) specified that employers considered life and career skills as the "key to employment skills"; thus, it is imperative that learners should possess such competency.

The findings of Bridgstock (2009) confirmed that self-management and career building skills are important to lifelong career management to augment employability rate among young individuals. Succi and Cannovi (2020) presented a similar observation when she found in her study that learners must take the responsibility to acquire and develop the essential soft skills which include self-motivation, establishing an atmosphere of cooperation and collaboration where different views are heard and respected, and the willingness to help others for learners to easily adapt to changes. The same emphasis is found in the result of the study as it can be gleaned from the data that indicators 1 to 5, which talk about (a) respecting cultural differences and working effectively with people from a range of social and cultural backgrounds; (b) giving value and respecting other people's opinions, ideas, and beliefs; (c) having the innate ability to inspire, energize, and encourage learners; (d) building harmonious relationship with the learners; and (e) collaborating and cooperating effectively with the team, are practiced by the teachers at a Very High extent, as shown by the weighted mean which ranges from 6.15 to 6.28.

Table 2 presents the Senior High School students' academic performance in the core subjects. As shown in the results, Senior High School students exhibit "Outstanding" performance in Media and Information Literacy, Personal Development, Contemporary Philippine Arts from the Regions, Earth and Life Science, Physical Science, Pagbasa at Pagsulat, Oral Communication, Komunikasyon at Pananaliksik sa Wika, Understanding Culture and Society, General Mathematics and Statistics with mean ratings ranging from 89.62 to 92.25. This indicates that the Senior High School students' performances of Foundation Preparatory Academy exceeded the core requirements in terms of knowledge, skills, and understanding the core subjects, and can transfer them automatically and flexibly through authentic performance tasks (DepEd Order No.8, s. 2015). The result is a gauge that the students are shaped and prepared to thrive in a globally competitive society.

Meanwhile, Senior High School students' academic performance in Introduction to Philosophy, 21st Century Literature, and Reading and Writing is on the "Very Satisfactory" level with mean ratings of 89.26; 88.89; and 87.65, respectively. Since all 21st century competencies such as critical thinking, complex problem solving, collaboration, communication and multimedia skills are intertwined into all content areas in the core subjects, the result denotes that students have mastered the 21st century competencies and are globally competitive as evidenced by their outstanding

and very satisfactory performances. The result corresponds to the findings of Rahman (2019) when he emphasized in his study that students have to gain more knowledge in all subject areas to lead a successful life and, at the same time, gain important skills which will help them survive in the fast-changing world.

This matches to the findings of Rotherham and Willingham (as cited in the works of Magno et al., 2016) which revealed that business leaders, politicians, and educators agreed that students must be equipped with the necessary 21st century skills so that they are prepared to compete in the global market. Furthermore, Ross (2017) claimed that providing students with the 21st century skills does not only provide them with the framework for successful learning but it also armed them with the required skills to successfully thrive in this k-economy society. In addition, Rahman (2019) stressed that students must be knowledgeable on different subject areas to become productive beings.

Moreover, it can further be noted from the data that the Senior High School students' performance in Media and Information Literacy has the highest mean rating of 92.25 with a verbal description of "Outstanding". The result could be attributed to Foundation Preparatory Academy's emphasis in the use of technology, particularly the iPad as a tool in developing the mind, body, and character of every learner. It is evident from the findings that FPA teachers successfully integrated digital tools in the teaching–learning process which contributed to the students' outstanding academic performance in Media and Information Literacy. This was supported in the study of Calumba (2018), when he found that Foundation Preparatory Academy teachers' use of technology, particularly the iPad in classroom instruction, creates a student-centered learning environment that addresses students' different learning styles and caters to the needs of every learner, thus improving their academic performance. He further claimed that using technology-based instruction promotes collaboration and cooperation among students as they enthusiastically engage in every learning activity provided by the teachers.

Furthermore, Calisang et al. (2019) in her study on Students' Attitude towards E-learning in relation to their Learning Styles also mentioned that FPA students exhibit positive attitude towards the use of iPad as a tool in classroom learning and in E-learning, in general, because it provided them a wide variety of interesting and exciting learning experiences as they can freely explore with their teachers and classmates for productive learning purposes. She also found that E-learning accommodates learners of different learning styles, and trained them to become independent and inquisitive since it provided the learners with a self-paced learning environment. These findings only proved that Foundation Preparatory Academy is successful in responding to the advocacy of Partnership for the 21st Century Skills Organization of all educational institutions to give emphasis in shaping and developing students' digital competence which includes media and information literacy skills to address the needs of the digital society (P21st Century Skills, 2018).

It can be seen from the data that the teachers' effective use of technology in the teaching–learning process creates a meaningful and interesting learning environment which leads to the learners' productive learning experience. The result is parallel to the study of Findikoglu and Ilhan (2016) as they pointed out that technology paved the way for teachers to create attractive and interactive instructional materials,

which supports the transfer of learning to students and develops their digital competence, thus leading to an improved academic performance. This marks the shift in the educational system from the traditional rote memorization of facts to technology integration that helps in the development of the 21st century skills in learners such as creativity; critical thinking; communication; collaboration; problem solving; and media and technological skills (Urbani et al., 2017; Van Laar et al., 2017).

On the other hand, of the 14 core subjects, it can be observed that the students' academic performance in Reading and Writing is the lowest with a mean rating of 87.65 and a verbal description of "Very Satisfactory". The finding is similar to the 2018 Program for International Student Assessment of the Organization for Economic Cooperation results which revealed that Filipino students ranked second to the last in Reading Literacy, out of the 79 participating countries with an average score of 340 points which is lower than the OECD average of 487 points (PISA, 2018). This means that English teachers must go the extra mile by giving more activities for practice and assessment, such as essay writing, composing varied forms of professional correspondence and assignments on readings from scholarly journals and book reviews, to develop students' love for reading and writing and to sharpen their skills in composition. This is affirmed in the works of Umirova (2020) as the author pointed out that authentic text materials, such as printed materials which improve learners' reading comprehension, vocabulary, writing, and grammatical skills, will also further develop their fundamental critical and analytical thinking skills.

Table 3 depicts the results on the relationship between the extent to which teachers practiced the 21st century skills as perceived by the students and the students' academic performance in the core subjects. The data indicate that there is an inverse and significant relationship ($p < \alpha = 0.05$) between the extent to which teachers practiced the 21st century skills in terms of learning and innovation skills and students' performance in General Mathematics ($r_s = - 0.116$; $p = 0.030$) and Introduction to Philosophy of the Human Person ($r_s = - 0.108$; $p = 0.045$). This finding may imply that students with lower academic performance in General Mathematics and Philosophy of the Human Person have teachers who displayed higher extent of practice on the 21st century skills in terms of Learning and Innovation skills.

Mathematics and Philosophy subjects are challenging areas in the field of formal and social sciences because these cover topics and competencies that require a lot of analysis or deep and sound critical thinking — the strong foundation in reasoning and problem-solving processes.

In line with this, it can be observed from the results that Mathematics and Philosophy teachers Highly practiced Learning and Innovation skills which include the 4Cs (Communication, Critical thinking and problem solving, Creativity, and Collaboration) and devote extra time in teaching the concepts in order to improve the students' grades, but the students have not yet reached the outstanding level of their performance. This is in consonance with the findings of Refugio et al. (2019), as they revealed that Mathematics teachers tend to put extra time and extend more sessions when they reach the problem-solving concepts in Mathematics because students encountered difficulty in understanding and analyzing worded problems. The researchers interviewed their teacher respondents and found that the problem is due to students' poor comprehension and analytical skills.

This is also similar to the claims of FPA Mathematics and Philosophy teachers when they expressed during the interview that the leading challenge they come across in teaching the previously mentioned subjects is students' poor comprehension and analytical skills, so students cannot effectively connect equations and representations in the area of Mathematics and situational axioms in Philosophy to arrive at the correct solutions to worded problems and valid reasons to the maxims. This is confirmed in the statement of Tchoshanov as cited in the works of Refugio et al. (2019), when they pointed out that the difficulty of the subject on the area of problem solving is ascribed to students' weak connection between situations, concepts, comprehension, and representations.

In the teaching of General Mathematics and Introduction to Philosophy subjects, English is used as the medium of instruction. However, despite the fact that English is the second language, it cannot be denied that the students have difficulty in reading comprehension; thus, this becomes a barrier in the teaching–learning process. The teachers even spent more time to explain the worded problems and theorems, including the presented arguments, before the students can establish the connections. These claims can be attributed to students' poor reading and comprehension skills. This can be the underlying reasons on why an inverse relationship between the teachers' practices on the 21st century skills on Learning and Innovation (with the emphasis on 4Cs) and the students' academic performance in Mathematics and Philosophy exists because it can be gleaned from the results in Table 2 that in all of their core subject grades, reading got the lowest rating.

The data also reflect that there is an inverse and significant relationship ($p < \alpha = 0.05$) between the overall extent to which teachers practiced the 21st century skills and the students' performance in Introduction to Philosophy of the Human Person ($r_s = - 0.115$; $p = 0.033$). This finding may imply that students with lower academic performance in Philosophy of the Human Person have teachers who have displayed higher 21st century skills. Philosophy as a subject does not require memorization but rather the ability to evaluate arguments that requires excellent critical thinking and strong reasoning skills to back up opinions on given issues. In this regard, Zulkifli and Hashim (2020) suggested that teachers must be proficient in providing a learning environment and situations with learning stimuli that spark students' interest to actively engage in order to develop their critical thinking skills. In a study that they conducted on the application of philosophy with the emphasis on the development of 4Cs, they found that students' 4Cs are less developed because they lack the strong foundation in reading and critical thinking due to the lack of opportunities for intellectual stimulation that could reinforce and enhance their prior literacy experience.

Meanwhile, the rest of the paired variables do not indicate significant relationships ($p > 0.05$). This may mean that (a) Learning and Innovation Skills, (b) Information, Media, and Literacy Skills, and (c) Life and Career Skills cannot be considered as determinant of students' performance in most of their core subjects. This may be due to the responses of the students that do not vary much as reflected in the raw data and as shown in Tables 1.1–1.3.

Table 4 reflects the mean performances of the students when grouped according to their sex. As shown, the mean performances of the female students are higher than the male students and statistically significant ($p < \alpha = 0.05$) in the following

core subjects: Oral Communication (p = 0.005); Komunikasyon at Pananaliksik sa Wika at Kulturang Filipino (p = 0.000); Pagbasa at Pagsulat ng ibat-ibang Texto Tungo sa Pananaliksik (p = 0.007); Understanding Culture, Society and Politics (p = 0.047); Statistics and Probability (p = 0.016); 21st Century Literature from the Philippines and the World (p = 0.018); Introduction to Philosophy of the Human Person (p = 0.000); Earth and Life Science/Earth Science (p = 0.001); Media and Information Literacy (0.046); and Physical Science/Disaster Risk Reduction and Management (p =0.009). This means that female students perform better than the male students on the mentioned subjects. The result of the study is similar to the findings of the Southeast Asia Primary Learning Metrics which disclosed that female learners perform better in reading and writing and in mathematics literacy than males (UNICEF-SEAMEO, 2020). The same finding is discovered in the results of the Trends in International Mathematics and Science Study, which revealed that female students performed significantly better than male students in Mathematics and Science (Mullis et al., 2020). The result suggests that female students can competently master the content and skills and, at the same time, can manage their time wisely, so they can produce quality outputs better than males in the enumerated core subjects.

The result contradicts the findings of Esteve-Mon et al. (2020) when they pointed out that females have low computational and technological skills and are digitally less competent than males. In another study conducted by Lopes et al. (2018), the result disclosed that Media and Information Literacy skills of male and female students do not vary. This is further supported in the OECD (2013) survey result which denotes that differences in literacy skills between males and females do not exist.

In terms of the type of junior high school completed from, students coming from public high schools have higher mean performances than those students coming from private schools and statistically significant ($p < \alpha = 0.05$) only in the following core subjects: Oral Communication (p = 0.008); Personal Development (p = 0.008); and Earth and Life Science/Earth Science (p = 0.027). This signifies that students from public junior high schools perform better than those students from private junior high schools on the enumerated core subjects. The result negates the common notion that students from the private schools perform better than those in the public schools. This is supported by the findings of Magulod (2017) when he discovered in his study that in terms of the level of school performances as revealed in the National Achievement Tests for the three (3) consecutive years, public schools showed better academic performance than the private schools. The results can be attributed to the government's efforts to make educational reforms in the Philippine educational system, such as setting aside the biggest chunk of the national budget to the education sector to increase the provision of more classrooms, to improve the school facilities and the schools' computerization programs and ICT packages, and to uplift the standards of teachers through the provision of professional development training and salary increase for teachers to offer a better school climate and quality education. The finding is in opposition to the results of the study conducted by Ahmed et al. (2017), Natamba (2019), and the OECD PISA 2018 result which unveiled that private school students perform better than those in the public schools.

Conclusions

On the basis of the findings enumerated above, the following conclusions are generated:

1. The extent to which teachers practiced the following 21st century skills is high:
   (a) Learning and Innovation Skills;
   (b) Information, Media, and Digital Literacy Skills; and
   (c) Life and Career Skills.

2. The Senior High School students' academic performance in the core subjects is generally in the outstanding level.

3. There is a significant and inverse relationship between the overall extent to which teachers practiced the 21st century skills and the students' performance in Introduction to Philosophy of the Human Person.

4. There is a significant relationship between sex and the students' overall academic performance in the core subjects in favor of the female students. A significant relationship also existed between the type of Junior High School completed from and the students' overall academic performance in the core subjects in favor of those coming from public high schools.

   In general, teachers' practices on the 21st century skills in their classroom instruction is High and the Senior High School students' academic performance is generally in the Outstanding level.

Recommendations

On the basis of the findings and the conclusions presented, the following recommendations are proposed:

1. Foundation Preparatory Academy, Senior High School Department should create a Curriculum, Instruction, and Syllabi Committee to regularly revisit the course guides, curriculum content, teaching strategies, instructional resources, and assessment strategies, especially in Reading and Writing, 21st Century Literature, General Mathematics, and Introduction to Philosophy subjects, to assess the relevance of instructional practices to the changing times brought about by industrial revolution 4.0.

2. The Foundation Preparatory Academy administrators, after revisiting the curriculum, must initiate a move to invite experts from other schools who can conduct training for teachers and also share their best practices especially in the fields of Reading and Writing, 21st Century Literature, General Mathematics, and Introduction to Philosophy during in-service trainings and seminar workshops before the new agreed features of the curriculum can be implemented.

3. Foundation Preparatory Academy must include in the faculty development plan educational trips for teachers, especially in Reading and Writing, 21st Century Literature, General Mathematics, and Introduction to Philosophy teachers to benchmark other schools and adopt the practices best suited to the FPA school climate.

4. Foundation Preparatory Academy must send teachers to seminars and conferences for teachers' up-skilling and reskilling through a transformed development program.

5. Teachers' professional development for teaching core subjects using application of higher-order thinking skills and integration of technology must be emphasized.

6. Future studies which will focus on the factors that affect the high performance of females than males must be conducted.

7. Future studies in the teaching of Reading and Writing, 21st Century Literature, General Mathematics, and Introduction to Philosophy must be conducted to find out the underlying problems encountered by teachers and students in the enumerated subjects.

8. Proposed activities in the action plan appended in this study must be considered for its implementation to enhance teachers' instructional strategies and skills in teaching students for a much improved academic performance.

Compliance with Ethical Standards

The researcher, being cautious with all of the prerequisites of ethical considerations, first asked for the permission from the Principal of the Foundation Preparatory Academy to consider the researcher's request for the Senior High School students' grades in their core subjects. Another letter request seeking permission for the researcher to do the data mining of the Senior High School graduates' grades in the registrar's office was given to the Dean of the University of Admission and Records together with the approved letter from the Principal of Foundation Preparatory Academy.

On the other hand, since a questionnaire was also used as another instrument in collecting the data on the students' perception of their teachers' extent of practice of the 21st century skills, the respondents of the study were informed via electronic mails and private messages sent via messenger about the purpose of the study and the significant contribution of the data to the researcher's endeavor. They were also informed that the information they revealed in their answers in the Google form will be treated with utmost confidentiality. In some cases like when they expressed doubts and second thoughts of not participating, their decisions were respected with tact by the researcher.

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TEACHING COMPETENCY OF MATHEMATICS LEARNING FACILITATOR AMIDST NEW NORMAL EDUCATION: A MULTIPLE LINEAR REGRESSION ANALYSIS

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ABSTRACT

The study aimed to assess the teaching competency of mathematics learning facilitators at Agusan National High School during the 2021-2022 school year. The study focused on five competencies: instructional, guidance, management, interpersonal, and leadership skills. The research design used was correlational and causal. The researcher employed various statistical techniques such as frequency analysis, mean calculation, and independent sample t-tests to analyse the data. These analyses were conducted to determine significant differences in teaching competency ratings between the facilitators and administrators. Correlational analysis was also used to explore the relationship between teaching competency and demographic characteristics of the participants. The study's findings indicated that instructional, guidance, and leadership skills did not significantly differ in teaching competency. However, there were significant differences in the ratings of management and interpersonal skills between the facilitators and administrators. The study further revealed that the IPCRF performance ratings were consistently associated with the facilitators' instructional, guidance, interpersonal, and leadership skills. Regression analysis showed that the IPCRF performance rating for the school year (2020-2021) played a critical role in predicting the teaching competency of mathematics learning facilitators. In conclusion, the study emphasized the significance of management and interpersonal skills in teaching competency. It suggested that the IPCRF performance rating system could be used as a tool to assess and predict the teaching competency of mathematics learning facilitators.

Keywords: *guidance skills, instructional skills, interpersonal skills, leadership skills, management skills, teaching competency*

INTRODUCTION

The COVID-19 pandemic has led to a public health emergency that has disrupted the global education system. To mitigate the possible educational gap caused by the crisis, various learning modalities, such as modular learning, online learning, and blended learning, have been endorsed for the continuity of learners' education. It has prompted academics worldwide to reassess traditional face-to-face instruction and investigate online education as a potential option for filling the empty classroom while reducing the risk of infectious disease among learners, as noted by Kaur in 2020 (cited by Adnan & Anwar, 2020). However, the shift to remote learning has also presented significant challenges, particularly for teachers expected to perform optimally in a virtual teaching environment. Despite these difficulties, the new normal in education offers growth and development opportunities for those willing to embrace change.

The term "new normal" in education refers to changes in response to the COVID-19 pandemic. In the Philippines, the new normal in education has been characterized by a shift to remote learning and the adoption of flexible learning modalities. Based on the DepEd Order No. 18, 2020, the Department of Education (DepEd) has implemented a blended learning approach, which combines different modalities such as online learning, printed modules, and TV and radio-based instruction. This approach addresses the lack of internet access and digital devices in some areas of the country. DepEd has also provided teachers with training on using digital tools and platforms to facilitate online learning. Schools have implemented safety measures such as physical distancing, wearing of masks and face shields, and regular disinfection to ensure the safety of students and staff who attend face-to-face classes.

The flow of education in the new normal remains challenging for teachers. Despite the absence of physical encounters, teachers are caught up with additional workloads. Most teachers stay at home and work from home and find themselves with overwhelming work. They must attend webinars, prepare lessons, print lessons and modules, answer student queries via phone, text, and Facebook messenger, attend virtual meetings, and tend to personal responsibilities at home. Furthermore, there are additional challenges to delivering learning in the new normal setting. Slow internet connections, no internet availability, students in remote areas, and some parents who cannot receive and return modules on time due to personal reasons all contribute to the difficulty in delivering the learning modality. In the traditional face-to-face setting, elite teachers would have known how to handle these situations. However, predicting how to handle these situations has become problematic in the new normal setting.

The teaching competency of teachers plays an essential role in pedagogy. Education, as described by Green (2014), has the objectives of providing individuals with skills,

changing society, and enhancing equality. Effective teaching involves the use of good pedagogical techniques by teachers to encourage students' active participation in the learning process. The ability of teachers to manage the educational process by using teaching methods and resources is referred to as their pedagogical competency (Safin, Korchagin, Vildanov, & Abitov, 2020). To be successful, teachers must be knowledgeable about instructional methods and learning styles and must be capable of implementing effective teaching practices that enable students to acquire and apply knowledge. Darling-Hammond and Berry (2006) assert that students' acquisition of knowledge through teaching helps them develop into more knowledgeable individuals. Costa, Cardoso, Lima, Ferreira, and Abrantes (2015) highlight the importance of a teacher's pedagogical competency in terms of teaching techniques, instructional resource utilization, and learner assessment. Having pedagogical knowledge is crucial in the development of educational policies aimed at improving teaching and learning (Ellahi & Zaka, 2015).

Research Questions

The study aimed to evaluate the Teaching Competency of Senior High School and Junior High School Mathematics Learning Facilitators amidst this new normal education during the School Year 2021-2022. Specifically, it sought to answer the following questions:

1. What are the demographic profile characteristics of the participants in terms of:
    a. educational attainment;
    b. Length of service;
    c. c.no. of seminars/training attended ;
    d. d.IPCRF-Performance Rating for SY 2020-2021; and,
    e. e.type of learning modality?
2. What are the teaching competencies of Mathematics Learning Facilitators as rated by teachers and administrators with respect to:
    a. instructional skills ;
    b. Guidance skills;
    c. Management skills ;
    d. interpersonal skills; and,
    e. leadership skills?
3. Is there a significant difference in the teaching competency as rated by administrators and teachers?
4. Is there a significant relationship between the teaching competency of Mathematics learning facilitators and their demographic profile characteristics?
5. To what extent do the demographic profile characteristics singly or in combination significantly influence the teaching competence of Mathematics Learning Facilitators?

METHODOLOGY

This This study was conducted at Agusan National High School (ANHS) in the Division of Butuan City. The division was grouped into fifteen (15) districts, and ANHS belongs to Central Butuan District 1 (CBD1). At least 30 senior high schools are in the Division of Butuan City, where ANHS is the biggest in enrollees. The appropriate random sampling design used in this study is stratified random sampling because the population parameter of this study is the mathematics learning facilitators of Agusan NHS, including the school administrators. Through this, it ensures the population receives proper representation within the sample. To gather the data needed in this study, the researchers used Cochran's alpha formula to determine the sample size. Thus, all selected mathematics learning facilitators and administrators would be considered the final participants of this study.

The research instrument used in gathering the data was the survey questionnaire adopted from the study of Catolos (2019) entitled 'Teaching Performance of Selected Public Secondary School Teachers in Tanay, Rizal.' The questionnaire checklist was divided into two parts, but only Part II was used in Catolos' study. Part I described the participants' profile, including personal variables such as educational attainment, length of service, IPCRF-performance rating 2020-2021, number of seminars or pieces of training attended, and learning modality. On the other hand, Part II focused on a discussion about the main problem of the study, containing variables such as instructional, guidance, management, interpersonal, and leadership skills. These variables were considered because it was believed they had a direct bearing on the problem investigated. To quantify the subjects' responses, a Likert-type questionnaire checklist was prepared where respondents could freely choose their answers.

Before the actual survey, the researchers wrote a letter asking permission from the School Principal to conduct a study. Upon approval, the researcher retrieved the request letter. Agusan National High School Mathematics Learning Facilitators in Butuan City were selected for administration. In administering the questionnaire, the researcher used a Google Forms survey to gather the data needed for this study. The researchers used Google Forms as the medium in collecting data because it is widely used to create surveys easily and quickly since they allow you to plan events, ask questions to your employees or clients, and manage diverse types of information simply and efficiently, especially in this new normal. The researcher used the vacant time allotted to avoid distraction from their work. The participants were given enough time to answer the questions. After the data had been gathered, the researcher collected it to tally the scores and applied the statistical treatment.

After the data gathered were compiled, sorted out, organized, and tabulated, the data was subjected to statistical treatment to facilitate the presentation, analysis, and interpretation.

The following statistical tools or test procedures were utilized:

1. Frequency count and percentages were used to determine the demographic profile of the participants through tables and bar graphs.
2. Weighted Mean (Average) was used to determine the level of teaching competency of a mathematics learning facilitator as rated by teachers and administrators.
3. Independent Sample T-Test was used to compare the means of two independent groups to determine whether there is statistical evidence that the associated population means are significantly different. This study would be used to find the significant difference in teaching competency as rated by teachers and administrators.
4. Correlational Analysis was used to measure how strong a relationship is between the teaching competency of a mathematics learning facilitator and their demographic profile characteristics. Pearson's Correlation (also called Pearson's R) is a correlation coefficient commonly used in linear regression.

The study is descriptive in nature and focused on both junior high school and senior high school mathematics learning facilitators and administrators of Agusan National High School, located in the City of Butuan. The research sample comprised fifty-three (53) Mathematics Learning Facilitators, including administrators. The primary data gathering tool was a survey questionnaire to determine their teaching competency. This study evaluated Mathematics Learning Facilitators' teaching competency amidst the New Normal Education.

RESULTS

Table 1. *Percentage and Frequency distribution of participants*

Group	Subgroup	Frequency	Percent
Educational Attainment	Bachelors Degree	7	13.73
	MA/MS Degree	7	13.73
	With unis MA/MS	37	72.55
Length of Service	5 years and Below	21	41.18
	6-10 years	15	29.41
	11-15 years	7	13.73
	21 years and above	8	15.69
IPCRF Performance Rating (2020-2021)	Outstanding	29	56.86
	Very Satisfactory	21	41.18
	Satisfactory	1	1.96
No. of Seminars/ Trainings Attended	1 Training/seminar	8	15.69
	2 Training/seminar	2	3.92
	3-5 Training/seminar	27	52.94

	More than 5 trainings	14	27.45
Type of Learning Modality	Modular	35	68.63
	Online Modular	16	31.37

Table 2.1 *Computed Weighted Mean on the teaching competency in terms of Instructional skill*

Instructional Skills	Rated by Teacher		Rated by Administrator	
	Mean	**Verbal Description**	**Mean**	**Verbal Description**
consider students' strengths and weaknesses in class	4.51	Outstanding	4.35	Very Satisfactory
cover all lessons indicated in the curriculum	4.20	Very Satisfactory	4.33	Very Satisfactory
create an inviting atmosphere for students to participate	4.39	Very Satisfactory	4.39	Very Satisfactory
develop the different abilities of students	4.22	Very Satisfactory	4.29	Very Satisfactory
encourage student participation during discussion	4.57	Outstanding	4.41	Very Satisfactory
formulate innovative teaching approaches to make learning Interesting	4.45	Very Satisfactory	4.45	Very Satisfactory
makes sure that students gain mastery of the lesson	4.35	Very Satisfactory	4.16	Very Satisfactory
performs tasks aligned to the desired learning competencies	4.37	Very Satisfactory	4.25	Very Satisfactory
prepare lessons and grades on time	4.53	Outstanding	4.47	Very Satisfactory
show mastery of the subject matter	4.55	Outstanding	4.59	Outstanding
Average	**4.41**	**Very Satisfactory**	**4.37**	**Very Satisfactory**

1.00-1.49-Poor, 1.50-2.49-Fair, 2.50-3.49-Satisfactory, 3.50-4.49-Very Satisfactory, 4.50-5.00-Outstanding

Table 2.2 *Computed Weighted Mean on the Level of Teaching Competency in terms of Guidance Skills*

Guidance Skills	Rated by Teacher		Rated by Administrator	
	Mean	**Verbal Description**	**Mean**	**Verbal Description**
captivate the mood of the students through motherly/ fatherly approach	4.35	Very Satisfactory	4.33	Very Satisfactory

challenge students to share with one another and make them feel at home	4.45	Very Satisfactory	4.33	Very Satisfactory
create a feeling of security between and among class members	4.47	Very Satisfactory	4.41	Very Satisfactory
develop sense of belongingness to members of the class	4.57	Outstanding	4.31	Very Satisfactory
discuss topics that promotes good behavior	4.65	Outstanding	4.53	Outstanding
give positive advice to students with problems	4.59	Outstanding	4.51	Outstanding
perform tasks not only as teacher but also as guidance counselor	4.41	Very Satisfactory	4.39	Very Satisfactory
prepare all students mood before starting the lesson	4.59	Outstanding	4.49	Very Satisfactory
promote harmony among students with different interest	4.57	Outstanding	4.43	Very Satisfactory
share personal experiences to make the students feel at ease	4.49	Very Satisfactory	4.49	Very Satisfactory
Average	**4.51**	**Outstanding**	**4.42**	**Very Satisfactory**

1.00-1.49-Poor, 1.50-2.49-Fair, 2.50-3.49-Satisfactory, 3.50-4.49-Very Satisfactory, 4.50-5.00-Outstanding

Table 2.3 *Computed Weighted Mean on the Level of Teaching Competency in terms of Management skills.*

Management Skills	Rated by Teacher		Rated by Administrator	
	Mean	**Verbal Description**	**Mean**	**Verbal Description**
administer school policies consistent with its vision and mission	4.45	Very Satisfactory	4.37	Very Satisfactory
supervise student activities	4.45	Very Satisfactory	4.24	Very Satisfactory
consider classroom behavior as the basis of good performance	4.45	Very Satisfactory	4.25	Very Satisfactory
create a very quiet but performing classroom atmosphere	4.37	Very Satisfactory	4.18	Very Satisfactory
display authority in and out of the classroom	4.49	Very Satisfactory	4.33	Very Satisfactory
encourage students participation after his /her talk	4.53	Outstanding	4.37	Very Satisfactory
impose discipline during classroom discussion	4.59	Outstanding	4.49	Very Satisfactory
organize the classroom according to students activities	4.51	Outstanding	4.35	Very Satisfactory

plan class activities according to school polices	4.51	Outstanding	4.43	Very Satisfactory
produce positive achievement through strict compliance with policies	4.43	Very Satisfactory	4.41	Very Satisfactory
Average	**4.48**	Very Satisfactory	**4.34**	Very Satisfactory

1.00-1.49-Poor, 1.50-2.49-Fair, 2.50-3.49-Satisfactory, 3.50-4.49-Very Satisfactory, 4.50-5.00-Outstanding

Table 2.4 *Computed Weighted Mean on the Level of Teaching Competency in terms of Interpersonal Skills*

Interpersonal Skills	**Rated by Teacher**		**Rated by Administrator**	
	Mean	**Verbal Description**	**Mean**	**Verbal Description**
adjust to varying personal attitudes in the school	4.49	Very Satisfactory	4.47	Very Satisfactory
communicate pleasantly with all sectors in the school	4.25	Very Satisfactory	4.08	Very Satisfactory
consider others' feelings when talking of his/her opinion	4.37	Very Satisfactory	4.20	Very Satisfactory
consider sharing of knowledge with co-workers important in teaching	4.49	Very Satisfactory	4.18	Very Satisfactory
display equal authority inside school premises	4.51	Outstanding	4.39	Very Satisfactory
encourage others' opinion during discussion	4.51	Outstanding	4.25	Very Satisfactory
give constructive criticisms when necessary	4.39	Very Satisfactory	4.18	Very Satisfactory
help create a very friendly environment in school	4.57	Outstanding	4.33	Very Satisfactory
interact with students in and out of the school	4.33	Very Satisfactory	4.25	Very Satisfactory
mingle with co-employees during free time	4.45	Very Satisfactory	4.33	Very Satisfactory
Average	**4.44**	**Very Satisfactory**	**4.27**	**Very Satisfactory**

1.00-1.49-Poor, 1.50-2.49-Fair, 2.50-3.49-Satisfactory, 3.50-4.49-Very Satisfactory, 4.50-5.00-Outstanding

Table 2.5 *Computed Weighted Mean on the Level of Teaching Competency in terms of Leadership skills*

Leadership Skills	**Rated by Teacher**	**Rated by Administrator**

	Mean	Verbal Description	Mean	Verbal Description
ask suggestions from peers when doing group activities	4.60	Outstanding	4.76	Outstanding
consider new policies challenging	4.43	Very Satisfactory	4.41	Very Satisfactory
cooperate with superiors and peers	4.53	Outstanding	4.47	Outstanding
demonstrate creativity when doing assigned tasks	4.39	Very Satisfactory	4.25	Very Satisfactory
Always display positive attitude	4.71	Outstanding	4.67	Outstanding
exhibit professionalism in dealing with others	4.55	Outstanding	4.35	Very Satisfactory
perform assigned tasks by own initiative	4.49	Very Satisfactory	4.41	Very Satisfactory
perform tasks to the maximum standards	4.53	Outstanding	4.43	Very Satisfactory
respect others' opinion during brainstorming	4.63	Outstanding	4.51	Outstanding
show active participation in group work	4.61	Outstanding	4.49	Very Satisfactory
Average	**4.55**	**Outstanding**	**4.48**	**Very Satisfactory**

1.00-1.49-Poor, 1.50-2.49-Fair, 2.50-3.49-Satisfactory, 3.50-4.49-Very Satisfactory, 4.50-5.00-Outstanding

Table 3. Significance of the teaching competency as rated by administrators and learning facilitators

Teaching Competency	Rater	Mean	Standard Deviation	p-value*	Remarks
Instructional	Learning Facilitator	4.41	0.48	0.856	Not Significant
	Administrator	4.37	0.51		
Guidance	Learning Facilitator	4.51	0.54	0.172	Not Significant
	Administrator	4.42	0.48		
Management	Learning Facilitator	4.48	0.48	**0.047**	**Significant**
	Administrator	4.34	0.37		
Interpersonal	Learning Facilitator	4.44	0.55	**0.029**	**Significant**
	Administrator	4.27	0.41		
Leadership	Learning Facilitator	4.55	0.48	0.455	Not Significant
	Administrator	4.48	0.45		

Table 4. *Relationship between teaching competency and profile of mathematics learning facilitator.*

Teaching competency	Profile	Spearman's rho	p-value	Remark
Instructional	Length of Service	-0.049	0.735	Not Significant
	IPCRF Performance Rating (2020-2021)	-0.474	0.000	Significant
	No. of Seminars/ Trainings Attended	0.483	0.000	Significant
	Type of Learning Modality	0.163	0.254	Not Significant
	Educational Attainment	-0.206	0.148	Not Significant
Guidance	Length of Service	0.191	0.179	Not Significant
	IPCRF Performance Rating (2020-2021)	-0.286	0.042	Significant
	No. of Seminars/ Trainings Attended	0.343	0.014	Significant
	Type of Learning Modality	-0.044	0.759	Not Significant
	Educational Attainment	-0.148	0.300	Not Significant
Management	Length of Service	0.062	0.668	Not Significant
	IPCRF Performance Rating (2020-2021)	-0.222	0.118	Not Significant
	No. of Seminars/ Trainings Attended	0.214	0.131	Not Significant
	Type of Learning Modality	-0.102	0.477	Not Significant
	Educational Attainment	-0.264	0.062	Significant
Interpersonal	Length of Service	0.042	0.771	Not Significant
	IPCRF Performance Rating (2020-2021)	-0.295	0.036	Significant
	No. of Seminars/ Trainings Attended	0.135	0.344	Not Significant
	Type of Learning Modality	-0.235	0.097	Significant
	Educational Attainment	-0.394	0.004	Significant
Leadership	Length of Service	0.036	0.799	Not Significant
	IPCRF Performance Rating (2020-2021)	-0.314	0.025	Significant
	No. of Seminars/ Trainings Attended (	0.204	0.152	Not Significant
	Type of Learning Modality	-0.101	0.479	Not Significant
	Educational Attainment	-0.317	0.023	Significant

Table 5.1 Regression Analysis summary for teaching competence of mathematics learning facilitator towards profile

Variable	β Coefficients	Standard Error	t −Statistic	P-value	Remark
Intercept	4.366	0.237	18.422	0.000	Significant
IPCRF Performance Rating (2020-2021)	-0.374	0.102	-3.667	0.000	Significant
No. of Seminars/ Trainings Attended	0.202	0.056	3.576	0.000	Significant

Note: $R^2 = 0.373$ ($Df = 2, F = 14.307,\ p < 0.001$), dependent variable= Instructional Skills

Table 5.2. Regression Analysis summary for teaching competence of mathematics learning facilitator towards profile

Variable	β Coefficients	Standard Error	t −Statistic	P-value	Remark
Intercept	4.363	0.305	14.314	0.000	Significant
IPCRF Performance Rating (2020-2021)	-0.236	0.131	-1.796	0.079	Significant
No. of Seminars/ Trainings Attended	0.169	0.073	2.32	0.025	Significant

Note: $R^2 = 0.163$ ($Df = 2, F = 4.682,\ p < 0.014$), dependent variable=Guidance Skills

Table 5.3. Regression Analysis summary for teaching competence of mathematics learning facilitator towards profile

Variable	β Coefficients	Standard Error	t −Statistic	P-value	Remark
Intercept	5.87	0.485	12.111	0.000	Significant
IPCRF Performance Rating (2020-2021)	-0.251	0.144	-1.741	0.088	Significant
Educational Attainment	-0.183	0.105	-1.756	0.086	Significant

Type of Learning Modality	-0.256	0.161	-1.594	0.118	Not significant

Note: $R^2 = 0.187$ ($Df = 3, F = 3.593,\ p < 0.020$), dependent variable=Interpersonal Skills

Table 5.4. Regression Analysis summary for teaching competence of mathematics learning facilitator towards profile

Variable	$\boldsymbol{\beta}$ **Coefficients**	**Standard Error**	$\boldsymbol{t}$ **−Statistic**	**P-value**	**Remark**
Intercept	5.242	0.265	19.804	0.000	Significant
IPCRF Performance Rating (2020-2021)	-0.23	0.124	-1.853	0.070	Significant
Educational Attainment	-0.14	0.093	-1.512	0.137	Not Significant

Note: $R^2 = 0.141$ ($Df = 2, F = 3.946,\ p < 0.026$), dependent variable=Leadership Skills

DISCUSSION

Table 1 shows participants of this study work in the Department of Education Butuan City Division and are assigned to Agusan National High School, whose mathematics facilitators include administrators. The participants of this study are (33) JHS teachers, (18) SHS teachers and (2) school administrators. Most participants have an educational attainment of 72% with MA/MS units, 14% have a bachelor's degree, and 14% have a master's degree. Among the participants, 21 have been teaching for five years and below, 15 have served 6-10 years, seven facilitators have rendered 11-15 years, and eight have rendered 21 years and above. Regarding performance rating, 57% have an outstanding IPCRF rating, 2% received a satisfactory rating, and 41% received a "very satisfactory" evaluation. Regarding attendance to seminars/training, 27 participants have attended 3-5 sessions, 14 have heard more than five sessions, and only two have attended two sessions. Furthermore, 69% of the mathematics learning facilitators handle modular distance learning simultaneously, while 31% manage both online and modular distance learning.

Table 2 1 shows the results of the teaching competency in terms of instructional skills as rated by teachers and administrators. Both teachers and administrators assessed "Very Satisfactory" on instructional skills with an overall weighted mean of 4.41 and 4.37, respectively. As rated by teachers, there are three (3) indicators where they possess an outstanding rating as follows: consider students' strengths and weaknesses in class; prepare lessons and grades on time; while teachers and administrators have the same exceptional rating on "showing mastery of the subject matter."

Moreover, the findings reveal that as rated by teachers and administrators, they possess the necessary competencies as a teacher. This implies that the participants are doing their best to deliver quality instruction to their students. This aligns with Lapuz's (2010) assertions that great teachers must comprehend the material they teach and know how to convey it to students.

Table 2.2 shows the results on the level of teaching competency regarding guidance skills as rated by teachers and administrators. The teacher's overall weighted mean is 4.51, showing an outstanding rating, while the administrator's overall weighted mean is 4.42, indicating a very satisfactory rating. As rated by the teacher, five (5) indicators that possess outstanding results as follows: develop a sense of belongingness among members of the class; prepare all students' moods before starting the lesson; promote harmony among students with different interests; while teachers and administrators have the same outstanding rating on discussing topics that promote good behavior; and give positive advice to students with problems.

Furthermore, the outcomes also show that the teachers effectively guide their students. The study by Glewwe (2003) that the teachers should be able to change based on the needs and skills of students finds congruence in the outcome, which suggests that teachers also work as guidance counselors to their students to ensure their good behavior inside and outside of the classroom.

Table 2.3 shows the results on the level of teaching competency in terms of management skills as rated by teachers and administrators. Both teachers and

administrators assessed "Very Satisfactory" on management skills with an overall weighted mean of 4.48 and 4.34, respectively. As rated by the teacher, four (4) indicators have outstanding results: encourage students' participation after their talk, impose discipline during class discussion, organize the classroom according to students' activities, and plan class activities according to school class policies. As rated by the administrators, all indicators have a verbal description of "Very Satisfactory ", the highest weighted mean obtained of 4.49, indicating that the learning facilitators impose discipline during classroom discussion.

Additionally, the findings reveal that teachers have very satisfactory performance in terms of their management skills and teaching competency. It could mean that teachers employ varied classroom management strategies for an effective teaching-learning process. A good teacher pushes their students, according to Lardizabal (2003). The professors that many students find to be the most challenging are frequently the ones who are the most effective.

Table 2.4 shows the results on the level of teaching competency in terms of interpersonal skills as rated by teachers and administrators. Both teachers and administrators assessed "Very Satisfactory" on interpersonal skills with an overall weighted mean of 4.44 and 4.27, respectively. As rated by the teacher, three (3) indicators have outstanding results, as follows: display equal authority inside the school premises, encourage others' opinions during discussions and help create a very friendly environment in school. As rated by the administrators, all indicators have a verbal description of "Very Satisfactory", the highest weighted mean obtained of 4.47, indicating that the learning facilitators can adjust to varying personal attitudes in the school.

This suggests that teachers get along well with everyone at the school. Teachers are also capable of adapting to their chosen careers. This aligns with Ladd's (2006) assertion that a teacher's love and passion for their subject matter is the single most critical attribute they should possess. The finest instructors make an extra effort to establish connections with each pupil.

Table 2.5 shows the results on the level of teaching competency in terms of leadership skills as rated by teachers and administrators. The teacher's overall weighted mean is 4.55, indicating an outstanding rating, while the administrator's overall weighted mean is 4.48, showing a very satisfactory rating. As rated by the teacher, seven (7) indicators have outstanding results, as follows: exhibit professionalism, perform tasks to the maximum standards, show active participation in group work while teachers and administrators have the same exceptional rating as mentioned: ask suggestions from peers when doing group activities, cooperate with superiors and peers, always display a positive attitude and respect others opinion during brainstorming.

According to research, teachers make strong leaders and exemplary followers of their superiors. This agrees with Haslett's (2003) results that effective leadership is one factor in teacher effectiveness.

As reflected in **Table 3**, concerning the teaching competencies in Management and Interpersonal skills as rated by learning facilitators and administrators, the computed *p* values obtained probability values not exceeding 0.05. This rejects the null hypothesis stating that there is no significant difference in the teaching competency rated by facilitators and administrators regarding management and interpersonal skills. On the other hand, in terms of Instructional, Guidance, and Leadership Skills, the null hypothesis is accepted since the computed p-values in all aspects obtained p-values exceeding 0.05. This means that the rater agreed with this enumerated teaching competency which is not significant.

As reflected in **Table 4**, concerning instructional and guidance skills in terms of IPCRF Performance rating (2020-2021), the number of seminars and training attended computed p values obtained probability values not exceeding 0.10. This means that the IPCRF performance rating (2020-2021) and seminars and training attended are significant to their instructional and guidance skills. On the other hand, for the length of service, learning modality, and educational attainment, the computed p-values obtained exceeded 0.10. This implies that it is insignificant to their instructional and guidance skills.

Concerning instructional and guidance skills in terms of IPCRF Performance rating (2020-2021), the number of seminars and training attended computed p values obtained probability values not exceeding 0.10. This means that the IPCRF performance rating (2020-2021) and seminars and training attended are significant to their instructional and guidance skills. On the other hand, for the length of service, learning modality, and educational attainment, the computed p-values obtained exceeded 0.10. This implies that it is insignificant to their instructional and guidance skills.

Regarding management skills in terms of educational attainment, the computed p-values obtained probability values not exceeding 0.10. This means that educational attainment is significant to their management skills. On the other hand, IPCRF performance rating, the length of service, learning modality, and the number of seminars and training attended, the computed p values obtained probability values exceeding 0.10. This implies that it is insignificant to their management skills. A good teacher must know the students' psychological requirements, adaptive actions, and limitations (Dunhill, 2000). The guiding principle is that well-run classrooms facilitate efficient teaching and learning. The learners' incapacity frequently causes poor academic performance to control the school environment and behavior (Oliver et al., 2007).

Concerning interpersonal and leadership skills in terms of IPCRF Performance Rating (2020-2021) and educational attainment, the computed p-values obtained probability values not exceeding 0.10. This means that the IPCRF Performance Rating (2020-2021) and seminars and training attended are significant to their interpersonal and leadership skills. However, regarding the type of learning modality, their interpersonal skills are significant since the *p*-value does not exceed 0.10. On the other hand, the length of service and the number of seminars and training attended, the computed p-values obtained exceeded 0.10. This implies that it is not significant to their interpersonal and leadership skills. Moreover, the type of learning modality shows non-significant

leadership skills. According to Kumari and Dubey (2020), a teacher is responsible for fostering a positive learning environment in the classroom.

The analysis revealed in **table 5.1** that the IPCRF Performance rating (2020-2021) has a significant negative relationship with ($\beta = -0.374,\ p = 0.000$) and no. of seminars and training attended has a significant positive relationship ($\beta = 0.202,\ p = 0.000$). IPCRF Performance rating (2020-2021) and the number of seminars and training attended accounts for 37.3% of the variance in Instructional skills ($Df = 2,\ F = 14.307,\ p < 0.001$). This displays that as teaching competency in instructional skills increases, the IPCRF Performance Rating (2020-2021) decreases. On the other hand, the more seminars and training a participant attends, the higher their teaching competency is. It suggests that the IPCRF Performance Rating (2020-2021) and the number of seminars and training attended play a pivotal role in predicting the teaching competency of mathematics learning facilitators regarding instructional skills.

The analysis revealed in **table 5.2** that the IPCRF Performance Rating (2020-2021) has a significant negative relationship with ($\beta = -0.236,\ p = 0.079$), and the number of seminars and training attended has a significant positive relationship ($\beta = 0.169,\ p = 0.025$). IPCRF Performance rating (2020-2021) and the number of seminars and training attended account for 16.3% of the variance in guidance skills ($Df = 2,\ F = 4.682,\ p < 0.014$). This displays that as teaching competency in guidance skills increases, the IPCRF Performance Rating (2020-2021) decreases. On the other hand, the more seminars and training a participant attends, the higher their teaching competency is. It suggests that the IPCRF Performance rating (2020-2021) and the no. of seminars and training attended play a pivotal role in predicting the teaching competency of Mathematics Learning Facilitators regarding Guidance Skills.

The analysis revealed in **table 5.3** that the IPCRF Performance rating (2020-2021)and Educational attainment has a significant negative relationship with ($\beta = -0.251,\ p = 0.088$; ($\beta = -0.183,\ p = 0.086$) $respectively$. IPCRF Performance Rating (2020-2021), educational attainment, and learning modality account for 18.7% of the variance in interpersonal skills ($Df = 3,\ F = 3.593,\ p < 0.020$). Moreover, the results also show that type of learning modality does not impact the teaching competency with ($\beta = -0.256,\ p = 0.118$) . This shows that as teaching interpersonal skills competency increases, the IPCRF Performance Rating (2020-2021) decreases. On the other hand, the lower their educational attainment or equivalent to a bachelor's degree, the higher their teaching competency is. It suggests that the IPCRF Performance Rating (2020-2021) and educational attainment play a pivotal role in predicting the teaching competency of mathematics learning facilitators regarding Interpersonal Skills.

The analysis revealed in **table 5.4** that the IPCRF Performance Rating (2020-2021) has a significant negative relationship with ($\beta = -0.23,\ p = 0.070$) $respectively$. IPCRF Performance rating (2020-2021) and educational attainment account for 14.1% of the variance in leadership skills ($Df = 2,\ F = 3.946,\ p < 0.026$). Moreover, the results also show that educational attainment does not impact teaching competency with ($\beta = -0.14, p = 0.093$) . This displays that as teaching competency in leadership skills

increases, the IPCRF Performance Rating (2020-2021) decreases. It suggests that the IPCRF Performance Rating (2020-2021) plays a pivotal role in predicting the teaching competency of Mathematics Learning Facilitators regarding Leadership Skills.

Conclusions

Based on the study, the researcher concluded that the teaching competency of the mathematics learning facilitators at Agusan National High School at all levels has a very satisfactory performance as rated by school administrators. However, as rated by the learning facilitator, only guidance and leadership skills have outstanding teaching competencies. These teaching competencies involve instructional, guidance, management, interpersonal, and leadership. This implies that the teacher's knowledge, skills, and ability are employed to develop meaningful pedagogic experiences for students.

In this case that the level of instructional, guidance, and leadership skills of the mathematics learning facilitators show no significant difference in their teaching competency as rated by the administrator and facilitator. Thus, only management and interpersonal skills appear to be significant. The study also concluded that the instructional and guidance skills of mathematics learning facilitators are associated with their IPCRF performance rating and the number of seminars and training attended. With regards to management skills, they are associated with their educational attainment. With regards to interpersonal skills, they are associated with their IPCRF performance rating, type of learning modality, and educational attainment. With regards to leadership skills, they are associated with their IPCRF performance rating and educational attainment.

Furthermore, the facilitator IPCRF Performance rating for SY 2020-2021 is pivotal in predicting teaching competency in all skills.

Recommendations

The researcher offered the following recommendations based on the salient findings obtained in the study:

1. The facilitators are encouraged to personally upgrade their teaching competency by attending learning and development opportunities, enrolling in graduate studies (Master's and Doctorate degrees) for personal and professional growth and development, and attending short courses.
2. School administrators are encouraged to conduct regular teachers' assessments and training needs evaluations to identify the needs of teachers in terms of their profession. Teacher education programs may be given much attention, especially in lesson content, quality of students being admitted, and quality teachers being created.
3. Education Program Supervisors may provide facilitators with the necessary professional growth in teaching competency through seminars, training, and

sessions that promote professional development to improve student performance. Seminars, training, and workshops may focus on innovative techniques for proper coaching and mentoring teachers.

4. The school management is encouraged to organize in-house teacher capability training to enrich motivational techniques in all aspects of teaching competency
5. The Department of Education may use this study to monitor a learning facilitator's teaching competency. Implementing the proposed plan of action should be encouraged by school administrators and embraced by public education continuously.
6. Future researchers may use this study as a starting point to investigate additional factors that might be considered in related investigations.

Compliance with Ethical Standards

The following are necessary to guarantee that research is carried out ethically and honestly.

Informed consent. In order to conduct a study, the head of the school will be written a letter by the researcher to gain permission. The participants will be informed particularly about all the aims and objectives of the research.

Privacy and Confidentiality. The participants are given orientation before answering the survey questionnaire in pursuance of RA 10173 or Data Privacy Act of 2012, all personal and/or sensitive information collected and disclosed by this survey shall be used solely for purposes of the study.

Conflict of Interest. The researchers are disclosing any financial or personal conflicts of interest that could potentially bias the results or their interpretation.

Fairness and Equity. Researchers make sure that everyone is treated equally, respectfully, and without prejudice based on factors like ethnicity, gender, or socioeconomic position.

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TEACHING ENGLISH ONLINE: THE ENGLISH PRE-SERVICE TEACHERS PERSPECTIVES

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ABSTRACT

Teaching practicum equip pre-service teachers in the teaching learning process. Through engaging themselves in teaching in the classroom and receiving of feedback from their mentors, they are able to improve and master their teaching skills necessary in their profession. However, due to the sudden shift of education caused by COVID-19 pandemic, the English pre-service teachers of Agusan del Sur State College of Agriculture and Technology, Trento External Studies Center (ASSCAT, TSC) conducted their teaching practicum online. Hence, this qualitative phenomenological research study explored the experiences, challenges, coping mechanisms and insights gained of the English pre-service teachers in teaching English online. The findings of this study was also utilized in order to design a suitable intervention program for the existing phenomenon. Phenomenological method of research was utilized with in-depth-interview guide questions which were validated by a panel of validators. The ten English pre- service teachers were purposely selected through a fishbowl method in the conduct of the study. Findings revealed that the English pre-service teachers perceived their experiences as difficult yet fulfilling. The study also revealed that the participants were challenged in their lesson delivery and lesson preparations due to the poor internet connection and unavailability of devices to be used in online teaching. Moreover, their experiences in teaching English online had given them the ideas on the real life of a teacher. Through this insights and experiences gained in teaching online, the English pre-service teachers believed that they were made prepared for their profession. The study ends with recommendations for preparatory programs or trainings for online

teaching, provision on the use of technology and internet signal, and a face-to-face interactions with the cooperating teachers for feedback.

Keywords: *English pre-service teachers, teaching English online, teaching practicum, experiences, coping mechanisms, phenomenology*

INTRODUCTION

Teaching practicum establishes the most essential part of teacher education for it provides pre-service teachers (PST) with hands-on experiences in teaching. For many PSTs, their practicum experiences are the most challenging, difficult, and frustrating period of their program for this is where they experience the teachers' many complex tasks involved in actual classroom practice (Ersin, 2020). Through teaching practicum, PSTs can be equipped in the teaching learning process. Through engaging themselves in teaching and receiving feedback from their mentors, PSTs are able to improve and master their teaching skills (Murray-Harvey et al., 2000).

In March of 2020, however, the unprecedented impact of the COVID-19 pandemic has dramatically changed the educational practices. Because of lockdowns and quarantines, schools were closed which made the distance education ubiquitous. Pre-service teachers in practicum courses had to cease from teaching in schools. The instructors of Marmara University in Turkey shift to uploading of articles for PSTs to read and reflect on or videos taken from different actual classes. They could watch and analyze them in place of the teaching practicum. In these, many PSTs felt "incomplete" and "disappointed" for not being able to engage in macro-teaching to get feedback from their university supervisors and mentors. Many also have reported that they felt unprepared and unready to teach for their future career (Ersin, 2020).

In the Province of Quirino, since the country has the slowest and most expensive internet setup (Fabito et al. 2020 and Yra et al. 2020), this stresses the factors affecting the experiences of the PSTs of Quirino State University – Diffun Campus, Quirino Province. As their practicum was done at home using the internet, resources were not enough to produce instructional materials which impedes their productivity and performance. This resulted in the feeling that something was missing, describing their experiences as insufficient since they did not experience the rigor of the actual student teaching. Moreover, their experiences do not necessarily boost or develop the confidence needed in the field (Laguitao et al. 2021).

In Agusan del Sur State College of Agriculture and Technology, Trento Satellite Campus (ASSCAT, TSC), the PSTs under the Bachelor of Secondary Education (BSED) major in English program also share the same problem. Due to the temporary closures of schools, PSTs were deployed inside the ASSCAT Trento campus where the BSED instructors became their cooperating teachers (CT). However, since there are only four BSED teachers in ASSCAT Trento campus, the 42 BSED-English PSTs were divided into four to be accommodated. The PSTs were given topics to teach online and will be given feedback from their CT after. However, PSTs were only given a few online teaching experiences because of the number of PST per CT. The problem with the internet strength as well as the availability of personal computers, mobile phones and the like had also been their challenges as they have to conduct their classes online too.

They were not given the chance as well to craft their own instructional materials or record students' progress through quizzes and exams and even live interaction with the learners which the researcher considers a great problem since the teaching practicum should be preparing the PSTs in their real job in the future.

Since the teaching practicum is an essential part of every PST's course program, it is therefore necessary to identify what are the experiences and problems being encountered by them in this new system of teaching practicum. Moreover, the researcher would also like to identify how else the school, the administrator, the instructors and the mentors can extend help and support for the preparedness of these prospective teachers. By this, the result of this study might become the basis for intervention like seminars, trainings or programs that might further help the future PSTs in their preparedness in teaching English online.

Research Questions

1. What are the experiences of the English pre-service teachers in teaching English online?

1.1. How do you describe your experience as a pre-service teacher in teaching English online?

1.2. What preparations did you do in teaching English online?

1.3. What programs in college prepare you for teaching English online?

2. What challenges do the English pre-service teachers encounter during teaching English online?

2.1. What difficulties have you encountered in the teaching and learning process of English subjects online?

2.2. What English lessons do you find difficult to teach online?

2.3. What were the challenges you encountered with technology in the delivery of English lessons during online teaching?

2.4. What were the causes of each of the challenges you encountered during teaching English online?

3. How do the English pre-service teachers cope with the challenges encountered in teaching English online?

3.1. What were the mechanisms you utilized to cope with the challenges you encountered in teaching English online?

3.2. How did you teach difficult English lessons online?

3.3. How did you deal with the difficulties on the use of technology in teaching English online?

3.4. What assistance were given to you by the school, the administration, and the cooperating teachers?

4. What are the insights gained by the English pre-service teachers during teaching English online?

4.1. What are the insights you gained with your experience in teaching English online?

4.2. In your own perspective as a pre-service teacher, what are needed to be considered during the implementation of online teaching?

4.3. What assistance should be provided to pre-service teachers that may help them to prepare for their professional life by the school, the administrator and the cooperating teachers?

4.4. How did your experiences in teaching English online prepare you in your teaching profession?

METHODOLOGY

This study was conducted in Trento, Agusan del Sur. This only focused on the experiences, challenges and coping mechanisms of the Bachelor of Secondary Education pre-service teachers of Agusan del Sur State College of Agriculture and Technology, Trento Satellite Campus (ASSCAT, TSC). However, this study was limited only on the ten (10) major in English pre-service teachers who were officially enrolled during the first semester of school year 2021-2022, specifically in their teaching internship between May - June, 2022. The duration was good enough to get in touch and scheduled an interview with the English pre-service teachers.

This study used phenomenological research design since the issue that was explored through this study were the experiences of the English pre-service teachers during their English online practicum, their challenges and the mechanisms they had utilized in order to cope with their challenges. The researcher adopted the concept of Creswell (2013) who stated that the ideal number of participants in a phenomenological research ranges from 5 – 25 participants. The participants were chosen using Purposive Sampling through fishbowl method. It is a non-probability sampling method and it occurs when “elements selected for the sample are chosen by the judgment of the researcher. Researchers often believe that they can obtain a representative sample by using a sound judgment, which will result in saving time and money (Black, 2010).

In the process of collecting data for this research, an In-depth Interview (IDI) was conducted to the English pre-service teachers of Agusan del Sur State College of Agriculture and Technology, Trento Satellite Campus (ASSCAT, TSC). IDI is done to avoid the possibility of misinterpretation (Creswell, 2008). The researcher used audio recorder and video recorder so as to make it valid and reliable. The validity and reliability of the collected data played a significant role in the study. It was very important to foster trust and confidence in collecting of data among the participants in order to get the truth and honest response from them. In-depth interview was employed in data collection in which participants were interviewed individually in their most convenient time, place, and manner.

The researcher used her prepared open-ended questions. This gave the informant the opportunity to express freely his/her thoughts and views as it is very significant to the success of the study. The audio and video recorders were used to obtain a precise and accurate data (Boyce and Neale, 2006).

With the use of audio and video recorder, the researcher documented the qualitative responses of the English pre-service teachers during the interview which consisted of the additional comments of all the participants, making the research

questions as the instrument. The researcher then transcribed, noted down information, analyzed, validated, and schematized the content of the data.

Analysis began after the data collection period. The collected data were reviewed, synthesized, and documented in order to keep careful and detailed notes. This was very important due the short time frame for data collection. After the completion of the formal data collection period, analysis began. The qualitative data were analyzed and examined collectively to provide a holistic picture. All the data collected were transcribed and analyzed according to the research questions.

RESULTS

1. What are the experiences of the English pre-service teachers in teaching English online?

Description of Experience as Pre-service Teaching English Online	Considerably Difficult
	Struggling
	Fulfilling
	Stressful
	A Different Experience Compared to Face-to-Face
	Delighted to Teach
	Tense Feeling but Exciting
	Challenging
Preparations Made in Teaching English Online	Self-Preparation
	Preparation of Learning Materials
	Ensure Better Internet Connection
College Programs that Help Pre-service Teachers in Teaching English Online	Get Some Learning from Demo Teaching
	Get Some Learning From Subjec
	Get Some Learning From Instructors
	Nothing at All

2. What challenges do the English pre-service teachers encounter during teaching English Online?

Difficulties Encountered in the Teaching and Learning Process	Problem with Internet Connectivity
	Difficulty with the Delivery of Subject Online
	Problem with Students' Learning
	Problem with the Preparation
	Lesson preparations
	Familiarity with English Language
Difficult English Lessons to Teach Online	Subject-Verb Agreement
	Vocabulary
	Proper Pronunciation
	Lessons in Literature
	No Lessons were Found Difficult to Teach
Challenges Encountered with	Literacy on the Use of Technology
	Poor Internet Connection
Technology in the Delivery of English Lessons	Challenges in Looking for Online Resources
	Cheating in the Internet
	Malfunctioning Laptop
	Poor Internet Connection

Causes of the Challenges Encountered	Being Unfamiliar with Word Meaning
	Curriculum Still New
	Lack of Budget for Internet Connection
	Improper Delivery of Lessons
	Unprepared for the Pandemic
	Being New to Online Modality

3. How do the English pre-service teachers cope with the challenges encountered in teaching English online?

Mechanisms Utilized to Cope with Challenges Encountered	Study Lessons First
	Be Determined in Delivering the Lesson
	Need for Gadgets and Internet Connection
	Develop Learning Materials
	Search for Word Meaning
	Engage Students at the Start of Session
	Use of Interactive Platform
	Ways Used to Teach Difficult English Lessons
	Find Ways to Simplify Lessons
	Do Research in the Internet
Ways Used in Dealing with Difficulties on the Use of Technology	Tried to be Adaptable
	Make Use of What's Available
	Reach out to Peers
	Do Self-exploration
	Tried to Endure Amid the Limitation
	Deal Squarely Any Challenge at Hand
Assistance from School, Administration and Cooperating Teachers	Guidance from Cooperating Teacher
	Getting Techniques from Cooperating Teacher
	Getting Personal Help from Administration and Cooperating Teachers
	Flexibility of School and Administration
	Administration Provided Classrooms
	School as Venue for Learning
	Scholarship from School
	Getting Support from Administration for Online Teaching
	Free Internet Connection from School

4. What are the Insights Gained by the English Pre-Service Teachers in Teaching English Online?

Insights Gained with Experience in Teaching English Online	It Pays to be a Good Intern
	Online Teaching is Really Challenging
	Be an Open-minded Teacher
	Teaching not an Easy Profession
	Good Preparation Works
Things Needed during the Implementation of Online Teaching	Find Ways to Connect to Students Online
	Preparation of Lessons
	Consider the Learning of the Child
Assistance to be Provided from the School, the Administrator and the Cooperating Teachers to Pre-service	Training for Teaching Strategies
	Provision for Internet Connection
	Introduce More Challenging Tasks
	Cooperating Teacher as Role Model
	Guidance from Cooperating Teacher

Teachers for Professional Life	Cooperating Teachers Gave all the Support
Ways that the Experiences in Teaching English Online Prepare the Pre-service Teachers for their Teaching Profession	Get Some Ideas on Teaching
	Learned About the Life of a Teacher
	Learned Some Strategies and Approaches
	Able to Build Confidence to Face Students

DISCUSSION

The structured themes and the emerging themes were made as foundation in broadening the discussion of the findings in this study. As each theme was linked to related literature and studies, a substantial discussion was made to find their alignment with the theme.

Description of Experience as Pre-service Teaching English Online. The emerging themes in this structured theme are considerably difficult, struggling, fulfilling, stressful, a different experience compared to face to face, delighted to teach, tense feeling but exciting, and challenging. These were the definition of the English pre- service teachers on their experience in teaching English online.

The findings revealed that considerably difficult is the commonly used definition of the pre-service teacher participants in their experiences in teaching English online, which can also be interrelated with the definition challenging, struggling and stressful. Most of the participants found their experiences as these due to the sudden shift of learning modality which left them and the institution unprepared in their program. Moreover, due to the scarcity of materials and resources used for online teaching, the pre-service teachers consider it hard to teach their lessons online.

Meanwhile, it was also found out that the pre-service teachers experienced fulfillment in their internship experiences, delight and excitement in teaching English online. Though the experience was new and different compared to face to face which they preferred more, still, they were able to learn and adjust in order for them achieve to the tasks given to them as pre-service teachers.

As pre-service teachers, teaching online as result to the pandemic is difficult. In the study of the Secret Teachers (2020), most pre-service teachers find it difficult, some thrived, and some sunk due to the quick and unprepared shift to online teaching. Thus, the situation evolves more which gave pre-service teachers with little help or guidance during their teaching practicum.

Barnesa, Hall, Lower, Pottinger and Popham (2020) also revealed that amidst the pandemic, pre-service teachers who were teaching at private colleges were struggling with little assistance and even training from their teacher education programs.

They did not receive consistent and thorough feedback from their cooperating teachers or program mentors. Some of them were also left behind, unable to adequately address their worries about what to teach and what not to teach, as well as how to educate and assess.

To teach online is also challenging as the pre-service teachers perceive it. Laguitao, Cubalit, Teppang, dela Cruz and Bautista (2021) claimed that online learning is challenging as to some factors that need to be considered such as the connectivity, area, and of course, the monetary consideration or financial capability of both the teachers and the learners. Correspondingly, it has also become stressful since online teaching-learning in pandemic was a new experience for teachers, pre-service teachers and students to be involved in (Mishraa, Gupta, Shree, 2020).

Furthermore, the pre-service also considered their practicum experience as a different experience from face-to-face. Koşar (2021) appealed that the online or distance education embodied a number of disadvantages including the absence of effective communication, which is the one that takes place in face-to-face classes. Consequently, this leads to the difficulty of the mentors to be faced by students as well as the deficiency to socialize with them.

The pre-service teachers also described their experience as tensed but exciting. In fact, in the study of Cooper, Warren, Hogan-Chapman and Mills (2020), the pre- service teachers who experienced creating and instructing an online module felt comfortable with adjusting for different learning styles, using a variety of assessments, facilitating student responsibility for learning, providing an alternative explanation or example when students seemed to be confused, responding to defiant students online, facilitating collaborative learning, and providing effective learning experiences for students, as well as appropriate challenges for the very capable. These experiences caused them fulfillment as they were able to do tasks of a real teacher. Pre-service teachers reported their satisfaction in learning and teaching from their practicum experiences, which reinforces their personal and professional development (Kaldi, 2009).

Preparations Made in Teaching English Online. The preparations made by the English pre-service teachers in teaching English online were self-preparation, preparation of learning materials and ensuring better internet connection.

Based on the findings, the English pre-service teachers made self-preparation in terms of lesson planning and delivery before they got themselves in the learning process. Also, since online learning is a learning that takes place in the internet, another preparation they did was their learning materials which include their instructional materials like PowerPoint presentations. Also, mobile phone, laptop or personal computer were also being readied. More importantly, the English pre-service ensured their internet connectivity.

The findings revealed that self-preparation is the most common preparation done by the participants. As stated by Mercado (2008), to make online learning possible necessitates teacher’s perceived readiness in terms of preparation and implementation. Additionally, online learning programs must include a methodical planning approach, as well as designing and implementing a student-friendly learning environment.

Also, when it comes to learning materials, formulating a lesson plan has been one of the preparation made by the participants. This result braced the study of Laguitao *et.al.* (2021) which claimed that lesson planning has been always the plight of pre-service teaching for it is one of the major concerns when it comes to evaluating the competencies and preview of the over-all outcomes. Since it is the blueprint of the learning process, it has to be done cautiously. Additionally, pre-service teachers were also required to plan, monitor, and control their learning processes more autonomously in order to follow self-study materials, organize participation in asynchronous and synchronous events (Naujoks et al., 2021).

Another material that the pre-service teacher prepared are their resources. Though they do not have enough resources due to the pandemic, thus they still look for ways for them to find one. It buoyed the same study of Laguitao *et.al* (2021) who found that because their practicum is done at their comfort zones, resources are not enough for them to produce instructional materials and other needs for learning such as printers, speakers, and others. Strengthening the study of Hadijah and Shalawati (2021) which said that the pre-service teachers did not have rich resources for their teaching, so the information in the learning media just refer to very limited content to practice the language.

Additionally, Febrianto, Mas'udah and Megasari (2020) noted that the teacher also needs to prepare online learning materials comprehensively to cover the requirements of the syllabus and show them through the integration of technology. Since preparing online learning materials is not a simple task to do, the pre-service and in-service teachers need to train themselves for that purpose (Hadajih and Shalawati, 2021).

Ensuring a better internet signal is another main preparation to do since the internet is the bloodline in the new normal of education (Laguitao *et.al.,* 2021). It supported the study of Ardiyansah (2021) who stated that both teachers and students must prepare such devices to support the process in carrying out online learning. Several types of equipment such as personal computers, smartphones, and internet connections are required to facilitate this process.

College Programs that Help Pre-service Student in Teaching English Online. Based on the findings of this study, the participants in this study received help in teaching English online through college programs given to them. They get some learning from demo teaching, get some learning from subject, get some learning from instructors and nothing at all.

Learning from subject and instructors is one way that the pre-service teachers in this study were being helped. They were helped not by any form of program nor trainings but by their teaching process. It supported the study of Hadijah and Shalawati (2021) who expressed that the teacher-educators have essential roles in guiding the pre-service teachers and in-service teachers to perform their teaching interestingly, effectively, and innovatively. It backed the study of Ardiyansah (2021) which claimed that despite the experiences in teaching online, some pre-service teachers who did not have the experiences were still confident because they were exposed to online learning from the university before joining the internship program. Most of them reflect on what their lecturers have taught them in online

learning and use it in teaching online in the internship program. Moreover, his study revealed that pre-service teachers had gained experience in online learning during their learning process in the university.

With honesty, some of the participants in this study answered that there was no specific college program given to them as pre-service teachers. This supported the study of Zawacki-Richter (2020) which said that many initial teacher education programs were not fully prepared for online instruction by the start of the summer 2020. Which is why in contrast to plan and well-design online learning environments, emergency remote teaching during COVID-19 has become the fast, temporary shift of instruction to an alternate delivery mode (Hodges et al., 2020).

Difficulties Encountered in the Teaching and Learning Process. The emerging themes in this structured theme are problem with the internet connectivity, difficulty with the delivery of subject online, problem with students' learning, problem with the preparation, lesson preparations and familiarity with English language.

In teaching English online, the English pre-service teachers encountered various challenges which caught up the learning process of the students. As the internet connection in the Philippines was poor, the most common problem the participants experienced was their connectivity to the internet. In effect, it links to the problem in the delivery of their lesson to their lessons due to lagging and losing of connection. Also, another problem which pertains to the learning of the students had emerged. Moreover, due to the number of tasks the pre-service teachers had to do, the problem with the preparation of materials and lesson plans had also occurred. Likewise, it was found out that the participants encountered problem with the familiarity of the language.

Internet connectivity was the first problem encountered by the English pre-service teachers in teaching online. It is one of the main problems that usually occur in online learning, such as the unavailability of devices and internet connection issues. Supporting the study of Efriana (2021) who mentioned that students' issues in online learning are in the form of inactivity in following learning, limited supporting facilities, and internet network access. It was also found out in the study of Agung and Surtikanti (2020) that the students are also struggling to follow the online learning systems because of some factors including the availability and sustainability of the internet connection.

Difficulty with the delivery of subject online was another challenge that the pre- service teachers encountered in their teaching practicum. As stated by Popova and Pikulenko (2020), the pre-service teachers need to advance their skills in engaging the students during online learning. Because the pre-service teachers have not fully understood how to engage the students, engagement became one of the issues. This issue was found because the pre-service teachers were busy on elucidating the content in the PowerPoint slides that they had prepared. Thus, this supports the study of Atmojo and Nugroho (2020) when they revealed that the interaction among the pre-service teachers and other students rarely happen during the online practice. Furthermore, the pre-service teachers did not show cheerfulness and fervor in their learning because they looked frightened and had flat intonation when clarifying the lesson to the students (Zayapragassarazan, 2020).

Problem with students' learning was the result of the delayed communication which is one weakness of online learning that is reported by many researchers. According to the study by Howland and Moore (2002), the communication between students and between students and instructor was a serious issue. The absence of face-to-face interaction between student and instructor contributed to undesirable perceptions of many students. Students felt apprehensive in guidance when the feedback from instructor was delayed. In addition, they also found that many students reported that it was difficult to get clarification on assignments, etc. due to lack of communication between student and instructor. The general impression of communication between students was also negative. Correspondingly, Petride's (2002) also reported that some participants felt a lack of immediacy in responses in the online context in comparison to what could typically occur in a structured face-to-face class discussion. This appears to be especially obvious in asynchronous online discussions, when students have to wait for others to read and respond back to their postings or e- mail messages. Lack of a sense of online community and the feelings of isolation were other weakness that learners have reported in their online learning experiences. Vonderwell (2003) reported that online learning participants indicated a lack of connection with the instructor, especially "one-on-one" relationship with the instructor.

Problem with the preparation is another challenge that the pre-service teachers encountered in teaching online. Thus, all of the issues experienced by the pre-service teachers are core elements that can affect the quality of the teaching if they are not well prepared. Popova and Pikulenko (2020) affirmed that by preparing for performing online teaching can be an effective way to present online learning. In a previous study conducted by Atmojo and Nugroho (2020), they found that a group of English teachers did not run their online teaching effectively because of lack of preparation and planning to teach online. Therefore, teachers must acquire how to prepare and run online teaching effectively (Zayapragassarazan, 2020). They have to be resourceful to find out the best ways that they can take to improve their skills in teaching online.

An old saying says that when you fail to plan, you plan to fail. Which is why, Dizon (2021) insisted that in teaching, lesson planning should be carried out properly and effectively. This emphasizes the statements that lesson planning is hard for them especially on creating, revising, and preparing instruction. Moreover, the time frame during their submission to their cooperating teacher for improvement and editing is another factor. In addition, financial limit was also seen as a factor on their instructional material construction as some of them are financially instable.

Lastly, the English pre-service teachers encountered unfamiliarity with English language to be used in teaching. In the study of Hadijah and Shalawatih (2021), they recommended that the pre-service teachers need to have better communication skills in verbal or written communication modes. The explanation and instruction have to be given clearly to avoid misunderstanding, especially in giving of tasks. The pre-service and in-service teachers need to be guided to deliver the information in simple manners, such as using high-frequency words, simple sentence constructions, and clear pronunciation. Thus, opening extra communication channels can be a solution to help the students in getting clear information and avoiding misunderstanding and demotivating in their learning activities.

Furthermore, to be an English teacher, a person should have a good command of English. Meaning, the language should be comprehensible, intelligible and understandable to receivers (Gallaway and Rose, 2015; Jenkins, 2014).

Difficult English Lessons to Teach Online. The emerging themes in this structured theme are subject-verb agreement, vocabulary, lessons in literature, proper pronunciation and no lessons were found difficult to teach.

In teaching English online, the pre-service teachers found some English lessons that are hard to be taught via online. Subject-Verb Agreement (SVA) was the most common of all these lessons. Vocabulary learning is also a challenge for them as well as pronunciation. Few participants also raised difficulty in teaching literatures to their students.

Subject-Verb Agreement or grammar rules is the central component of language (Greenbourn, 2002). Grammar is rules for forming words and making sentences. It means that grammar is the central component of language, which is consists of rules of grammatical structure. Teaching grammar is one of the challenges that every English teacher encounter. The findings of the study conducted by Halim, Wahid and Halim (2021) showed that teachers and students face more challenges in online grammar classes than the traditional classes. The problems occur when teachers try to give while students receive instructions online. In face-to-face classes, teachers can demonstrate examples on the spot. Moreover, some learners feel confident when they can see the teachers in front of them. Their tone, facial expressions, body language all contribute to the learning process.

On the other hand, vocabulary knowledge is one of the foundations of understanding students' literacy, as well as, determining teachers teaching performance (Muhamad and Kiely, 2018). Teaching them is a challenge especially when a teacher has but a few vocabulary only. Apparent to the study of Ocampo and McNeill (2019), teachers' ability to use and teach English confidently and fluently in the classroom depends on how much vocabulary they know. Vocabulary size is not only imperative on teachers' ability to engage in natural communication but also to other learning abilities such as listening, reading and writing skills. Teachers' vocabulary knowledge is important as they normally are responsible in giving correct feedback on words that students might not understand (Deocampo, 2020).

English Literature or literature in general is a diverse field and different forms of literary texts have their own peculiarities where the learners need to approach the text differently (Savvidou, 2004). Teaching literature requires exploration to several genres. This means that one's involvement in the lecture is a crucial factor in its teaching and learning process (Van, 2009). Such difficulty in teaching literature is affirmed by Islam (2021) who said that in an online class, teaching this diverse field can get difficult for the instructor as certain genres require special setting and active involvement from the students in the lesson. Because reading literature requires different approaches from the teacher as well as the learner.

Meanwhile, pronunciation is often regarded as the Cinderella of language education. Good pronunciation is regarded as a desirable quality in language teachers and a lack of it can cause criticism and questioning of professional identity (Eksi and

Yeşilçınar, 2015). However, pronunciation instruction seems to have received less attention than other fields in Second Language Acquisition (SLA) (Derwing and Munro, 2005)

Challenges Encountered with Technology in the Delivery of English Lessons. The emerging themes in this structured theme are literacy on the use of technology, poor internet connection, challenges in looking for online resources, cheating in the internet and malfunctioning laptop.

The pre-service teachers also encountered challenges regarding technology during their online practicum. As emerged, literacy on the use of technology pertains to the pre-service knowledge on the how of the technology in teaching online. Poor internet connection is also present which brings also the challenges on looking for online resources to be used in their lesson. Also, cheating in the internet as well as malfunctioning laptop had emerged.

Literacy on the use of technology was one of the difficulty of the pre-service teachers. Because online learning in the participant's school is just new, there was no enough program and training given to them. Although today's pre-service teachers commonly use ICT applications in their daily lives, the use of such apps for teaching and learning purposes is more problematic (Sailer *et al*., 2021). One possible reason is that pre-service teachers themselves have limited personal experience of digital learning environments (Valtonen *et al*., 2015). Despite their familiarity with various ICT applications, pre-service teachers show limited skills in utilizing these in teaching and learning (Valtonen *et al*., 2011), highlighting the need for initial teacher education programs to address the current deficit (Martin, 2015). Of particular importance is pre- service teachers' motivation to integrate technology into classroom practice (Backfisch *et al*., 2021).

On the other hand, internet connection is the greatest factor affecting the teaching and learning process. In the study of Laguitao *et.al.* (2021), some places have weaker connection or some do not have any connection at all, but generally internet connection in the country is expensive. This supports Ardiyansah (2020) as he claimed that the pre-service teachers were also concerned about the technical issues from the students since most of the students were located in remote areas with limited internet connection and unavailability devices.

In the result of the study of Laguitao *et.al* (2021), it was found out that the lack of resources impedes productivity of the pre-service teachers. Adapting to online teaching, pre-service teachers face significant challenges in maintaining development and supporting the learners' needs. Since their practicum is done at their homes, resources are not enough to produce instructional materials and other needs for learning such as printers, speakers, and others. Unlike the traditional classes, the needs of pre-service teachers are already given in terms of a classroom, laboratory materials, supplies, and equipment, and other instructional materials readily for use. However, in new normal, it is then where they need to be creative and resourceful in terms of their needs

Meanwhile, in the online environment, cheating extends beyond signaling and exchanging answers. Moten, Fitterer, Brazier, Leonard, and Brown (2013) detailed some options of online cheating that included students waiting for their classmates to get the answers. Their study pointed out that when students take their exams in a non-

proctored environment, they may also use multiple computers to facilitate cheating. On one computer, they will have the exam open, while the others provide Internet access, which is used to browse for answers. Even in Florida, cheating had happened which had made national headlines in 2007 when almost two dozen athletes at Florida State University were caught cheating in their online classes (Kaczor, 2007).

Gadgets and devices are number one factor also in learning online. In the Philippines, several studies showed some contrasting sentiments with regards to internet connectivity and the use of gadgets or devices for online learning. In a study by Fabito et al., (2020) the group revealed that one of the barriers and challenges in online learning is that poor students do not own laptops and desktop computers and have limited internet connections which concept relates to the study of Cleofas and Rocha (2021). Another study showed that the greater number of device types owned by a student, the greater the level of learning readiness they have (Estira, 2020). In addition, from another state university in the country, a study revealed the students' readiness for online classes however, the burden from computer and internet rentals in cafes exists (Yra et al., 2020).

Causes of the Challenges Encountered. The emerging themes in this structured theme are: poor internet connection, being unfamiliar with word meaning, curriculum is still new, lack of budget for internet connection, improper delivery of lessons, unprepared for the pandemic and being new to online modality.

Based on the data collected from the participants of the study, the pre-service teachers consider the poor internet connection as the cause of the difficulties they have encounter in teaching English language. In connection, the lack of budget for internet connection also emerged. Moreover, the unfamiliarity with word meaning and improper delivery of the lessons were also few of the causes. The pre-service teachers also think that the new curriculum was another cause which made them become new to the online modality.

Poor internet connection caused poor access to online platforms. In the study of Coman, Tiru, Schmitz, Stanciu and Bularca (2020), internet connection problems are existing, especially when the number of students connected was high. Even more, the issues on poor internet connection and poor mobile connection has caused low students' participation in the online learning. It was shown that the students' remaining technical problems are poor internet connections, signal loss, lack of adequate digital devices, especially for students living in rural areas or students from families with low incomes.

Because the Philippines is one of the countries offering the slowest and most expensive internet connection in Asia (Fabito *et.al*., 2020), the pre-service teachers consider their lack of budget for internet connection a cause of their difficulties in teaching English online. It was supported by Demuyakor, J. (2020) who conducted a study on coronavirus (COVID -19) and online learning in higher institutions of education and reported that students encounter challenges during their online teaching and learning due to the high cost of internet data for students who are currently outside China.

Being unfamiliar with word meaning is another cause of the challenges encountered by the pre-service teachers. This backed up the study of Hadijah and

Shalawati (2020) who stressed that the pre-service teachers need use familiar words to have better communication skills in verbal or written communication modes with the students. The explanation and instruction have to be given clearly to avoid misunderstanding, especially in giving tasks to the learners.

Proper delivery of the lesson is another thing to be considered in teaching. Sun et al., in their study on students' experience during online courses showed that students believe that teachers should identify how to adjust their lectures to the online environment and not just to simply transfer online the information that was usually taught in the traditional way, and that they should give satisfactory number of projects and assignments. Backed with the study of Suresh, Priya and Gayathri (2018) involving the 424 universities around the world, it revealed that institutions were affected by the pandemic in terms of education delivery. Most universities stated that they had to adopt online learning and had to face many challenges, and one of the the most important is the teachers' ability to deliver online courses. Thus, in order to continue to properly deliver education, optimization of the E-learning process is necessary.

The sudden shift to online learning due to the pandemic which brings new curriculum was also consider the cause of the difficulties that the pre-service teachers have encountered in teaching English online. Its unprecedented shift also left the teachers and students to be unprepared for online teaching and learning. Laguiato *et.*al (2020) revealed that because the pre-service teachers first experienced distance learning in the heights of the pandemic in 2020, the distance and blended learning including modular approach, the sudden change of the environment in learning and the curriculum and pedagogical reforms has become one of the most common factors of students being unprepared in their endeavor.

Lastly, being new to online modality was also raised as the cause of the challenges of the pre-service teachers in teaching English online.This supported the study of Coman *et.al.* (2020) who revealed that in spite of all problems encountered, students relate problems to the context of the pandemic when both teachers and students were forced to deal with a situation they hadn't faced before. In result, some teachers did try to learn, find solutions, offer support for students and adapt their teaching style to the new conditions, things that some students appreciated despite the existing technical difficulties. Furthermore, the reason why the online educational process encountered so many issues is represented by the fact that the traditional way in which teachers used to deliver the practical part of the course was no longer suitable for the online environment. Thus, because they did not manage to rapidly adapt and come up with solutions, teachers created confusion and uncertainty among students.

Mechanisms Utilized to Cope with the Challenges Encountered. The emerging themes in this structured theme are: study lessons first, determination in delivering the lesson, need for gadgets and internet connection, develop learning materials, search for word meaning, engage students at the start of the session and use of interactive platform.

With the challenges being encountered by the English pre-service teachers in teaching English online, it has been found out that they study their lessons first and do search for word meaning before entering the class. They were also determination to deliver their lessons, developed learning materials and used interactive platforms which

helps the learners be engaged in learning. As to gadgets and internet connection, they made use of these materials for self-exploration in order to cope with the challenges.

Studying the lessons first before teaching them was the most common mechanisms used by the pre-service teachers in coping with their challenges. In the study of Esani (2010), he cited that the time and labor-intensive work for lesson preparation that is required in online course development and delivery are greater than that of regular classroom teaching. Therefore, the instructor must start preparing for an online course long before the course starts. This requires hours in front of a computer screen typing every instruction that could be verbally communicated in a face-to-face setting with minimal effort. This is because every aspect of the course must be carefully organized with explicit and detailed instructions.

Moreover, the determination in the delivery of the lesson was also practiced by the pre-service teachers to cope on the challenges they had in teaching English online. Naah (2020) claimed that the pre-service teachers may be challenged by poor internet access, lesson delivery and assessment challenges, and lack of interest in online lessons however, considering them as college learners, it is also expected that these pre-service teachers can manage their time effectively and develop communication and technological skills. By then, they must be dynamic, exhibit commitment and accept the flexibility that goes with online teaching and learning.

The need for gadgets and internet connection bolstered the study of Baluyos (2021) who claimed that online learning is made possible through an internet connection and functional gadgets. Therefore, it proves that stable internet connection and available technological resources play a vital role in online learning. There is a need for an updated gadget and a stable platform/software for online classes. These may help them especially in synchronous classes.

Meanwhile, to develop comprehensive learning materials to be used in teaching online is always necessary to cover the requirements of the syllabus and show them through the integration of technology (Febrianto, Mas'udah and Megasari, 2020). It supported the study of Baluyos (2021) who claimed that preparation of learning materials is one of the teachers mechanism to for it serve as a supplement for the teacher's instruction. Therefore, the preparation of learning materials is a prerequisite to online teaching. They feel the need to prepare the learning materials first, especially the PowerPoint presentations needed to be presented to the students before online classes. Searching for word meaning is another factor which the pre-service teachers consider as help in teaching online. In the study of Nation (2001), he showed that students' first language has an important role in understanding communication context. The students are at ease to understand the context if it is explained using their first language. Moreover, the different mother languages made the pre-service teachers difficult in implementing the learning process, especially in explaining the material online which is why, searching its word meaning and translating it to the mother language became their mechanisms in coping these challenges in vocabulary.

Lastly, engaging the students at the start of the session is another mechanisms used by the pre-service teachers. This is somehow connected to the use of interactive platform in teaching English online. This strengthened the study of Darby (2020) who explained that an online teacher must create a coherent learning experience for students they may not meet face-to-face. In action, they must

develop new support

strategies that maintain motivation and encourage interaction in the online classroom. Therefore, Dhawan (2020) attested that online teaching and learning enable educators must customize their procedures and processes based on the needs of the learners. He further explained that there are plenty of online tools available which is important for an effective and efficient teaching and learning processes.

Ways Used to Teach Difficult English Lessons. The emerging themes in this structured theme are: find ways to simplify lessons and do research in the internet.

Due to the distance between the pre-service teachers to their cooperating teachers, they had to look for ways in order for them teach the difficult lessons assigned to them. There were two ways that they do; first, they looked for way to simplify the lessons and did research in the internet.

Simplifying the difficult lessons were used by the participants in order for them to teach the difficult lessons they have in English. Mahmoud (2014) stated that linguistic simplification can be clearly distinguished from simplification of learning task, and the various linguistic achievement strategies employed by learners can be seen as bridging steps leading from task simplification to linguistic simplification as one of the outcomes of task simplification. Moreover, he also believed that linguistic simplification is not a strategy, it is the result of the learner's use of various learning and communication strategies. Thus, it could also be a 'teaching' strategy, and not a 'learning' strategy. Thus, caretakers and language teachers simplify the language in order to assure effectiveness in delivery whereas language learners simplify the learning task for effective learning.

The second technique for the pre-service teachers to teach their difficult lesson was to do research. It supported the study of Laguitao *et.al* (2021) where the pre- service teachers claimed that internet is their hero in this pandemic. For this reason, although they are burdened in having internet for their studies, they still need to secure a good internet connection. The study of Pastores, Dacanay, Mayoya, Nanglihan, and Bautista (2021) claimed that students in this pandemic are mostly internet dependent as teachers are seemed to be absent. Moreover, the informants claimed further that Mr. Google seems to be their teacher in this pandemic.

Ways Used in Dealing with Difficulties on the Use of Technology. The emerging themes in this structured theme are: tried to be adaptable, make use of what's available, reach out to peers, do self-exploration, tried to endure amid the limitation and deal squarely any challenge at hand.

The pre-service teachers amidst their difficulties had many ways in dealing their difficulties on the use of technology. It was found out that the participants had tried to be adaptable with the situation, they made use of what's available in their end, some also had chosen to reach out their peers for help and did some self-exploration. Aside to these, the pre-service teachers also tried to endure amid their limitation and dealt squarely any challenge they were in.

It was found out that the pre-service teachers tried to be adaptable with the situation. It supported the study of Laguitao *et.*al (2021) which stated that the pandemic has made the teachers and learners adapt to new technologies and maximize their experiences and abilities in the new normal set-up. The pre-service in their study has

also opted to adapt with the new normal by embracing them in their midst as they believe that this is the new normal of education. This is also seen as an avenue to maximize their potentials being 21st century educators.

Making use of what's available is another way for the participants to deal with their difficulties on the use of technology. In the absence of personal laptop and computer, the participants made use of mobile phones which were the only available gadgets they had instead. It bolstered the study of Kapasia, Paul, Roy, Saha, Zaveri, Mallick, Barman, Das and Chouhan (2020) which found that most of the students used android mobile for attending their classes online. Another study also implied that mobile phones are well-liked by students and became one of the best tools for an educational institution to adopt in the new normal.

In online teaching, the pre-service teachers also had reached out to their peers for help and motivation in times of their struggles. Colbeck, Sakulwichitsintu, Turner and Ellis (2014) study was supported by this as they confided that different students have different learning potential and intelligence, with this, some students need peers' motivation or support for further exchanging their own ideas and opinions. Moreover, they added that online students could also contribute to their peers through encouragement and facilitation while interacting with each other

Doing self-exploration is also practiced by the pre-service teachers in order to cope with their challenges in using technology. This supports Coman *et.al* (2020) who said that in online teaching, the teachers who are open minded, flexible and interested in developing themselves became self-taught and tried to improve their teaching skills online education. However, a certain segment of teachers still manifests resilience towards learning how to use new tools and they use, during the courses, only the basic functions of the E-learning platform

Moreover, the pre-service teachers also tried to endure amid their limitation in order to continue the student's learning. It braced to the claim that to counter the recent negative experiences of online education, Openo (2020) believed that the long-term champions of online education must confront the three biggest challenges that still face online instruction –interactivity, authenticity, and support. By confronting and enduring these challenges now, while teaching online is part of the new normal, faculty and their institutions can help online education mature to achieve its potential and promise.

Dealing squarely any challenges at hand is the last resort the pre-service teachers had utilized in their difficulties to the technology. In the study of Coman *et.a.* (2020), satisfaction towards exclusively online learning show that, in spite of all problems encountered, the learners had the ability to relate these problems to the context of the pandemic when both teachers and students were forced to deal with a situation they hadn't faced before. Thus, some teachers also did try to learn, to find solutions, to offer support for students and to adapt their teaching style to the new conditions, things that some students appreciated despite the existing technical problems. Hence, seeing the short period of time in which teachers had to adapt to the new teaching conditions, most of them managed to cope successfully with the challenges, but there is still room for improvement.

Assistance from School, Administration and Cooperating Teachers. The emerging themes in this structured theme are: guidance from the cooperating teacher, getting techniques from cooperating teacher, getting personal help from administration and cooperating teacher, flexibility of school and administration, administration provided classrooms, school as venue for learning, scholarship from school, get support from administration for online teaching and free internet connection from school.

Guidance from the cooperating teacher has been one of the assistance given to the pre-service teachers in their teaching practicum. In the study of Hadijah and Shalawati (2021), the findings reveal some issues being encountered by the pre-service teachers in planning and performing their online teaching activities. Meanwhile, the guidance and feedbacks from the teacher-educator help them to develop their skills in planning and managing online teaching.

In the same way, getting techniques from the cooperating teacher was also practiced by the pre-service teachers which they considered as help in their practicum. It backed the study of Hadijah and Shalawati (2021) where the pre-service teachers received trainings and techniques in lesson planning as well as delivering of the lessons. As stated, after they have completed their lesson plans, their teacher- educator checked their lesson plans' quality based on the components. Afterwards, some revisions are required after receiving some feedbacks from the teacher-educator.

Getting personal help from administration and cooperating teacher also took place during their teaching practicum. As stated by Fafunwa (2001), a faculty of education should help students grow, develop, and equip them with the necessary skills and professional abilities to become effective teachers. In the study of Salima and Hamzah (2020), if the students have not understood the lesson, the teacher would ask students to contact him personally and to meet the teacher personally at school and hold discussions.

Flexibility of school and administration has given much help also to the pre-service teachers. In the online learning, the learners were given their own time at their own comfort and flexibility. This flexibility as claimed by Basilaia and Kvavadze (2020) was found to be more effective as learners submit their outputs at the given time providing answers to every query raised by them.

Another help that were given by the administration to the pre-service teachers is the classroom and the school as venue for learning as well as giving of support for their online teaching. As explained by Mercado (2008) that online learning programs must include a systematic planning process, designing, and implementing a learning environment easily accessible to students. However, it is still recommended as supported by Baluyos (2021) that the administrators must continue to upgrade the facilities and software used in online learning in the university and to increase bandwidth allocation for online classes to ensure stable connectivity of the instructors while having their synchronous classes. Also, in order to help the struggling instructors, they recommend to send instructors to training and workshops on the new trends in assessing students' performance using online platform/software.

Another assistance that was given by the school to pre-service teachers is the scholarship. According to the University of Hawaii Foundation (2015), scholarships decrease the number and amount of loans students need to take to complete higher education. Supported by the study conducted by Daz, Dela Cruz, Ferrer, and Gonzales

(2016) at the University of the East – Caloocan, results found that the scholarship is beneficial. It was also found out that the scholarship lessen the daily expenses as a student. Based on the data, the researchers found that scholarship grants are important, for the reason that it helps the students who are experiencing financial problem. Also, students state that financial assistance is a need for the students to support their needs.

Free internet connection from school was also given to the pre-service teachers. This free internet connection is a project of the government “Free Wifi For All”. The pre- service teachers can access this free wifi if they are within the school premises. This supports the recommendation of Asio *et.al.* 2021 where the provision of pocket Wifi for students especially in far-flung areas with ample data connection must be given by the school. Also, provision of Wifi hotspots to certain locations where students can avail it for free in the community like a plaza, barangay halls, Barangay Police outposts, parks, etc. is being recommended.

Insights Gained with Experience in Teaching English Online. The emerging themes in this structured theme are: it pays to be a good intern, online teaching is really challenging, be an open-minded teacher, teaching is not an easy profession and good preparation works.

The experiences of the pre-service teachers during their teaching practicum gained insights and realizations. They realized that one has to pay in order to become a good intern and that teaching is not an easy profession. Moreover, they also realized that as a teacher one has to be open-minded. They also grasped that once you have prepared well in your lesson, it will always result well in the class.

It pays to be a good intern is the first insight that was gained by the pre-service teachers. As Ambrosetti (2014) stated as a support in this idea, practicum is a shared journey between the mentor teacher and the pre-service teacher. Proper pre- service teacher training, strong teaching practicum foundation, and a good guidance and monitoring from the mentor teachers should be well-considered in order to better prepare the student-teachers become qualified teachers in the future.

The pre-service teachers also had realized after their online English teaching practicum that online teaching is really challenging. In the study of Laguitao *et.al* (2021) they said that online learning is challenging as to some factors that need to be considered such as the connectivity, area, and of course, the monetary consideration or financial capability of both teachers and learners. They also claimed that going online in education at the early shifts of the pandemic is indeed exigent. As concluded, it is in this premise that the pre-service teachers, their participants, see the connection between their internet infrastructures and their productivity.

Being an open-minded teacher is also an insight of the pre-service teachers during their teaching internship. As Coman *et.al* (2020) stated that teachers who are open minded in developing themselves became self-taught and tried to improve their teaching skills. However also, a certain segment of teachers still manifests resilience towards learning how to use new tools and they use, during the courses, only the basic functions of the E-learning platform.

Teaching is not an easy profession as the pre-service teachers had also perceived. Such insight supports Naylor, Campbell-Evan and Maloney (2015) who said that learning to teach is a complex process because of the roles and responsibilities that

teachers have to play, the nature of schools and classrooms and the diversity of students.

Lastly, the pre-service teachers had proven that good preparation works in every teaching endeavor. It strengthened Ulla (2016) who mentioned that course teachers and supervising teachers should monitor, help, and teach them how to develop teaching materials to be used in class.

The pre-service teachers revealed that knowledge on how to plan, prepare and develop teaching materials in the class is an important skill that should be learned. They further said that the lack of skills in planning and preparing a lesson, and developing teaching materials can lead to ineffective teaching.

Things Needed during the Implementation of Online Teaching. The emerging themes in this structured theme are: find ways to connect to students online, preparation of lessons, consider the learning of the child, establish gap between teachers and students.

The challenges of the pre-service teachers during their teaching practicum had brought out the ideas needed to be addressed in the implementation of online teaching. They believed that the teachers should find ways to connect to the students online in this trying times and to consider their learnings. They also find it necessary to prepare the lessons before going online for classes and to establish gap between their learners.

Teachers must find ways to connect to students online is another consideration that the learners find essential during the implementation of online teaching. It backed the study of Tham and Werner (2005) which results revealed that the effectiveness of E- learning is determined by three elements. One of these elements is the students. Since the students may feel isolated because of the absence of physical colleagues, the teachers should know how to establish and find ways to build connections and relationships with them.

Also, the preparation of lessons is needed to be considered during the implementation of online learning as perceived by the pre-service teachers. In the study of Baluyos (2021), she claimed that teaching in an online learning environment necessitates more preparation than teaching in a traditional classroom. It is because the quality of online learning education may be influenced by how teachers are prepared to teach. Thus ample preparation, enough time, and resources should be extended to instructors (Gurley, 2018). Instructors should learn, develop, and model the necessary knowledge, skills, and dispositions relevant to online learning environments (Williams, and Casale, 2015). Moreover, Baluyos (2021) has emphasized that instructors should be given enough time and resources in the preparation of learning materials. In addition, these learning materials should be carefully planned and aligned to the outcomes of the lesson. Students will acquire skills to analyze, synthesize, and develop their logical reasoning and creative thinking through learning materials.

Another consideration needed by the pre-service teachers in the implementation of the online teaching is the learning of the child. It bolstered Coman *et.*al (2021) as they revealed that when using E-learning platforms, there should be some elements that might be considered obstacles in students' process of learning, such as decreased motivation in students, delayed feedback or help due to the fact that their teachers are

not always available at the time students may need help while learning, or feelings of isolation due to lack of physical presence of classmates. Which is why, these obstacles can only be overcome with the help of teachers who should adapt their teaching strategies to the needs of students for it is the reason in the first place of why teaching takes place.

To establish gap between teachers and students is the last consideration that the pre-service teachers think is needed during the implementation of online learning. To establish gap means to put boundary like respect on the relationship between teacher and students. The teachers must not assume that being kind and respectful to students is enough to bolster achievement. An ideal classrooms have more than a single goal: therefore, teachers must hold students to appropriately high standards of academic performance and offer students opportunity for an emotional connection to their teachers, their fellow students and the school (Gregory and Weinstein, 2004; Wentzel, 2010). This is supported in the study of Tormey (2021) who emphasized that warmth should not be seen as unimportant—rather that warmth, trust, and admiration are seen together as elements of a re-imagined and less exploitative conceptualization of care work.

Assistance to be Provided from the School, the Administrator and the Cooperating Teachers to Pre-service Teachers for their Professional Life. The emerging themes in this structured theme are: training for teaching strategies, provision for internet connection, introduce more challenging tasks, cooperating teacher as role model, guidance from cooperating teacher and cooperating teachers gave all the support.

Upon completion of their teaching practicum, the pre-service teachers had came up with few necessary factors that they believed would assist them more in their teaching. They believed, that few of the assistance they needed from the school, the administration and the cooperating teachers are trainings the teaching strategies in teaching English for them to become more efficient in teaching. They also believed that they should be given provision in the internet connection as this is one of their common challenges as well as to task them a more challenging responsibilities. Moreover, they also see it as a need that the cooperating teachers should model to them the strategies and guide them more in teaching.

The pre-service teachers believed that they should be given training for teaching strategies for them to become more efficient in teaching. As Hadijah and Shalawati (2021) had revealed in their study, in giving assessment, it is one of the challenging parts in online teaching activities, especially in giving tasks and monitoring the students' activities in completing the task honestly. That is why, providing the pre-service teachers the training on how to assess online learning activities becomes necessary for the pre-service teachers because they still have limited knowledge on this aspect. It is also suggested for the pre-service and in-service teachers to know effective assessment application that can be effectively given to the students and ease the teachers' efforts in designing, monitoring and checking the tasks for the students.

Sincethe stability of the internet connection is the biggest predictor o f success in online teaching, provision for internet connection must also be considered. This supported Fernandez (2020) who expressed that stable internet connections and

functional gadgets like laptops,computers, and mobile phone should be deliberated in the online teaching-learning process as important. More so, Baluyos (2021) believed that there is a need for an updated gadget and a stable platform/software for online classes. These may help them especially in synchronous classes. Instructors still need support from the institution as they continue to deliver quality online education to learners, as evident in their experience in difficulty in the conduct of assessment activities in online teaching.

Another thing that the pre-service teachers believe is needed for them to become ready in teaching is introducing to them more challenging tasks. It backed up Lortie (2002) who implied that with the given serious implications on pre-service teachers' naïve mental models, he calls upon teacher educators to come up with approaches that will help beginners increase their awareness. As teachers, they have the responsibility to use best practices in college teaching to offer learning experiences for that will give the pre-service teachers the opportunities to develop more grounded, more constructive understandings of what it means to teach and learn.

In addition, the pre-service teachers also consider it as big help when their cooperating teachers model to them the strategies and techniques in teaching. This corroborated Williams and Casale (2015) who noted that the instructors should learn, develop, and model the necessary knowledge, skills, and dispositions relevant to online learning environments in order for their learners to adapt them to themselves.

Another thing that the pre-service teachers considered as needed is the guidance from their cooperating teacher. Nagro, Hirsch and Kennedy (2020) stated that guidance is required to facilitate pre-service teachers' evaluation of their methods during cycles of reflective practice. For example, guiding questions orient their focus on the analysis of teaching choices and why they do what they do, evaluation of the success or failure of those choices based on students' learning outcomes, and implementation of revised plans for future lessons.

However, to all the assistances that were brought out, one pre-service believed that the cooperating teachers had already gave all the support needed by them. This is supported by iNACOL (2011) who claimed that online teachers are tasked with not only teaching subject matter but also supporting students' engagement, interactions, and technological skills within the online environment which is already beyond their tasks. Which is why, in the study of Zweig and Stafford (2016), they emphasizes that since the teachers are tasked with both content instruction and supporting students within the online learning environment—an environment to which many are new—then there is a pressing need for more focus on supporting these teachers for professional development trainings. Thus, pre-service education programs and online learning programs should consider providing more opportunities for both current and future online teachers to build their knowledge and skills related to student perseverance and engagement.

Ways that the Experiences in Teaching English Online Prepare the Pre-service Teachers for their Teaching Profession. The emerging themes in this structured theme are: get some ideas on teaching, learned about the life of a teacher, learned some strategies and approaches and able to build confidence to face students.

The purpose of teaching internship is to prepare the pre-service teachers in the field. With the training provided to the pre-service teachers in this online practicum, the pre-service teachers believed that they were made ready because of four facts. Through their experiences, they get some ideas on how to teach by learning some strategies and approaches in language teaching. In addition, they have learned about the life as a teacher and have built confidence in facing their students.

The pre-service teachers, based on what were given to them as experience in teaching English online considered themselves prepared in teaching through some ideas on teaching that they get from their instructors and cooperating teachers. By simply observing during their classes, the pre-service teachers were able to learn from them. It substantiated Ugalingan, Edjan and Valdez (2021) who stated that the supervisor's role has been helpful as they modeled strategies and provided input in facilitating online teaching. The participants were able to observe their supervisors with the different online teaching strategies which they found effective as they also applied these during their tutorial sessions. In addition, as Aisyah and Wicaksono (2018) mentioned, one of the indicators of being a professional language teacher was developing the profession continually through reflective actions. It means that the pre- service teachers are already familiar with the process of online learning. Therefore, the pre-service teachers were considered aware of their preparation in implementing teaching online and developed answers to online learning difficulties.

Having to learn about the life of a teacher is another way which the pre-service teachers considers have prepared them in teaching. In the study of Sepulveda-Escobar et al. (2020), the pre-service teachers termed online teaching practicum as a "once-in-a- lifetime" experience which from their view impacts them positively for their teacher education and future careers. Through this practice which opened their eyes about the different role of the teachers, pre-service teachers will be more prepared for the real world where changes and adaptations are crucial to keep going and keep developing. Besides that, the experience of teaching practicum during the pandemic gave pre- service teachers an opportunity to put into test their teaching skills in addition to further exploring the skills to strengthen them (Sepulveda-Escobar and Morrison, 2020).

It was also revealed that by learning some strategies and approaches in teaching, the pre-service teachers are now prepared in teaching. In fact, the pre-service teachers are also equipped with teaching online experiences, making them imitate their lecturers' teaching strategies and methods for their perceived readiness in teaching practice programs in an online environment. Moreover, the PSTs were also able to receive mentoring and feedback after each tutorial for further improvement. As a means of socio-emotional support, these practices have helped create a level of familiarity for the participants in eventually handling actual classes (Hadar, Ergas, Alpert and Ariav, 2020).

Lastly, due to their experience in teaching, the pre-service teachers had built confidence to face students. They believe that they were being prepared to teach as they were given the experience to handle and manage their students. This corroborated the study of O'Neill and Stephenson (2012) who claim that classroom management subjects increase pre-service teachers' confidence and preparedness to manage their own classroom.

Conclusions

With the English online teaching as the main focus of the investigation, the understanding on the experiences, the challenges encountered, mechanisms utilized in coping with the challenges, and insights of the English pre-service teachers, and crafted intervention program from the findings of the study in teaching English online was highlighted. The experience of the English pre-service teachers in teaching English online, drawn from their experiences, could reinforce the teachers, the administration and the institution's understanding about it.

The results showed that the pre-service teachers have difficulties in teaching English online due to problems caused by their unpreparedness to the pandemic, the difficulty with internet connection, availability of devices to be used, the preparation of themselves as well as to their learning materials. With this, the pre-service teachers had tried to be adaptable with the circumstances. Some did self-exploration and some reached out to their peers for help. There were also assistance from the institution and cooperating teachers that were given in forms of guidance and provision on the use of the classrooms and internet. Through their experiences, the pre-service teachers had known the reality of being a teacher and how to become a good one.

Reasonably, during the implementation of online learning, there are many things that need consideration. It is critical for the institution and administration as well as teachers to know the difficulties and struggles it may bring to the pre-service teachers. Administration and teachers should make sure that the pre-service teachers will be given support by means of trainings and workshops in teaching online, knowing that online teaching is new to them. Moreover, provision on internet connection and devices should also be deliberated as some of the participants honestly conveyed their difficulties on the materials needed in teaching online. To that effect, it would be of great help for the pre-service teachers to receive any form of support and guidance from the school, the administration and their cooperating teachers in preparing them into becoming a real teacher in the future.

Recommendations

Based on the findings, the following implications for practice are offered.

On the Description of Experiences as Pre-service Teacher Teaching English Online. It can be reckoned that the research participants had different description on their experiences in teaching English online as pre-service teachers. The definition of their experiences mentioned were considerably difficult, struggling, fulfilling, stressful, a different experience compared to face to face, delighted to teach, tense feeling but exciting, and challenging. Meanwhile, these descriptions were based on the experiences they had during their teaching internship.

According to the findings, the pre-service teachers mostly defined their experiences as difficult, stressful and challenging which are undeniably negative. This was because they had done so much adjustment during their internship due to factors related to online teaching. It has been shown that the pre-service teachers were

somewhat unprepared as they had not seen the online teaching practicum coming. However, the need to correct this impression is needed as teaching practicum always comes whether a pre-service teacher is prepared or not. Also, by further giving them more online preparatory teaching activities may also be advantageous for them so that there will be a minor room for them for adjustment.

On Preparations Made in Teaching English Online. The results implied that the pre-service teachers have made preparations in teaching English online by means of self-preparation, preparation of learning materials and ensure better internet connection. Hence, to teach English online requires preparations. Thus, the results showed that the pre-service teachers had made themselves prepared first, their learning materials as well as their devices and internet connection knowing that they will be teaching online.

The results also implied that a pre-service teacher must made good preparations for one to deliver his lessons well. Thus, good preparation correlates to self-confidence in teaching. Moreover, teachers must prepare his devices and always prepare for an option. Because no matter how much prepared you are in terms of self and learning materials, if you fail to prepare your online devices, you may fail in your online teaching too. Lastly, the teacher must also consider their students' capacity to connect themselves online knowing that there were students who also have challenges with regards the internet connectivity.

On College Programs that Help Pre-service Student in Teaching English Online. The findings of the study revealed the programs in college that helped the English pre- service teachers in their preparation for online teaching. Based on the result, the pre- service teachers get some learning from their demo teaching, get some learning from their subject, get some learning from their instructors, and nothing at all.

The implication of this is that the college institution had not provided any specific program that specifically prepared the pre-service teachers for online teaching. However, due to some subjects in their curriculum and their instructors who initiated demo practices, the pre-service teachers were introduced to online teaching which they consider as helpful during their teaching practicum. Hence, the institution should be developing detailed training and specific program that would help the pre-service teachers in their preparation for the online teaching practicum.

On Difficulties Encountered in the Teaching and Learning Process. The problem with the internet connectivity, difficulty with the delivery of subject online, problem with students' learning, problem with the preparation, lesson preparations and familiarity with English language are just few of the many difficulties being encountered by the pre-service teachers in teaching English online.

The problem with the internet connectivity is generic to all. However, the difficulties in the delivery of the lesson as well as the preparation for it has something to do with the knowledge and skills of the pre-service teachers. This appears that a pre-service teacher still has to learn more on the approaches and techniques in language teaching. Aside to this, a pre-service teacher should emerge himself more in learning more vocabularies and words as this is necessary as a language teacher. Moreover, a pre-service teacher should also begin to practice on speaking the English language since English should be his medium of instruction when teaching.

On Difficult English Lessons to Teach Online. Among the English lessons, the pre-service teachers considered the subject-verb agreement, vocabulary, lessons in literature and proper pronunciation as the lessons that are difficult to teach. Few participants too have found no difficult English lesson during their online practicum. This implies that even if the pre-service teacher already had studied English for three years in college, his learnings still continued even until he was practice teaching.

Teaching English lessons online is indeed challenging especially when one lacks knowledge about his topic. Which is why, as a teacher, one must master his lesson before teaching them to the students. As a proverb says, “You cannot give what you do not have.” It is like telling, “You cannot teach what you do not know”. Aside to this, one has to get himself involve too in reading books or articles to develop vocabulary learning. Also, learn to practice in speaking the English language as this is also important as a language teacher.

On Challenges Encountered with Technology in the Delivery of English Lessons. The pre-service teachers had experienced difficulties with technology in the delivery of their English lessons. These difficulties were literacy on the use of technology, poor internet connection, challenges in looking for online resources, cheating in the internet and malfunctioning laptop.

As the teaching was done online, the pre-service teachers who were not so knowledgeable with technology really had struggled on using technology in delivering their lessons. They had looked for any possible means in order for them to do their tasks and that involved reaching their peers out or searching in the YouTube. This implies that the pre-service teachers should be given prior understanding or training on the use of the online class applications like Google classroom and Google drive. Also, the pre-service teachers had struggled in looking for online resources due to the slow internet connection, which in order to give help, the institution should have provided them any means to have resources needed in teaching English, or should have provided them with already downloaded PDFs or articles or e-books for them to be guided.

On Causes of the Challenges Encountered. The results of this study have shown that the pre-service teachers considered that poor internet connection, being unfamiliar with word meaning, curriculum is still new, lack of budget for internet connection, improper delivery of lessons, unprepared for the pandemic and being new to online modality are the causes of their struggles in teaching English online.

Unpreparedness to the pandemic was shown as the root of most of the difficulties that the pre-service teachers had encountered in teaching English online. This also implies that the institution was not totally prepared on the new normal setting in education. Therefore, in order to help the pre-service teachers on these challenges, the institution should formulate programs and activities that would help the pre-service teachers be prepared for online teaching. They should be given training on the use of approaches and techniques to ensure that their online teaching experience will be successful. Thus, the administration should be mindful of the capacities of their pre- service teachers when it comes to gadgets and devices to be used.

On Mechanisms Utilized to Cope with Challenges Encountered. As pointed out by the participants, the ways in dealing with their challenges in teaching English online were study lessons first, determination in delivering the lesson, need for gadgets and

internet connection, develop learning materials, search for word meaning, engage students at the start of the session and use of interactive platform.

This implies that the pre-service teachers were determined and strong-minded with their tasks. The preparations they did in order to give learning to their students were obvious even in their difficulties when it comes to devices and internet connection.

When it comes to the teaching session, in order to overcome the barriers in teaching, it is therefore necessary for the English pre-service teachers to have trainings on the use of interactive platforms and so to engage their learners in their classes. Also, it would be best if the pre-service teachers will be given another training on how to develop meaningful and effective learning materials that can be utilized in an online classroom.

On Ways Used to Teach Difficult English Lessons. The results have an implication that students find ways to simplify lessons and do research in the internet. With regards to this, pre-service teachers should think for any language teaching strategy applicable for online teaching to be utilized in their classes. Also, it would be very useful for the pre-service teachers if they will be trained by the institution or the cooperating teachers with the different strategies in teaching English.

On Ways Used in Dealing with Difficulties on the Use of Technology. Because the difficulties in the use of technology, especially on the internet connectivity, the pre- service teachers had dealt with it by trying to be adaptable, making use of what's available, reaching out to peers, doing self-exploration, trying to endure amid the limitation and dealing squarely any challenge at hand.

The pre-service teachers dealt with their difficulties by means of being adaptable to the challenges. They made use of their mobile phones in teaching due to the absence of laptop which is more helpful if there is. Some had tried to reach out their peers for help and assistance and some did self-exploration. Moreover, the pre- service teachers had dealt their challenge at hand with positivity and determination knowing that these things were part of their trainings into their becoming.

With regards on this, the findings on this study therefore necessitates the administration to give help to the pre-service teachers through giving them assistance especially those who are in need for internet connectivity. Also, trainings on use for technology and online class application should also be provided to the pre-service teachers.

On Assistance from School, Administration and Cooperating Teachers. Due to the new setting in the education system, the pre-service teachers perceived that the school and the administration had given them assistance in terms of guidance from the cooperating teacher, getting techniques from cooperating teacher, getting personal help from administration and cooperating teacher, flexibility of school and administration, administration provided classrooms, school as venue for learning, scholarship from school, get support from administration for online teaching and free internet connection from school.

This assistance had somewhat brought comfort and satisfaction to the pre-service teachers. The guidance they had received from their cooperating teachers as well as the personal help they got from the administration were appreciated. Also, in extending the school classrooms as their venue for learning and demo teaching gave

them joy as they were able to feel that they were real teachers during these activities. The free wifi from the government was also a big help to them who struggled with internet connectivity. Also, through the scholarship they had with the institution, the pre-service teachers believe that it was a great help as through their allowances, they were able to avail devices like laptop and mobile phones that are essential in their online teaching.

However, even in these assistances given to pre-service teachers, the challenges in online learning and teaching process are still present and it has to be given address. With this, the administration is in need to give pre-service teachers regular face-to-face sessions or trainings that would help them prepare in the online teaching. The cooperating teachers must do personal observation to the pre-service teachers and give feedback right away. These are necessary so for them to see and address the real struggles of the pre-service teachers during this trying season.

On Insights Gained with Experience in Teaching English Online. The pre-service teachers had gained few insights from their experiences in teaching English online. They realized that it pays to be a good intern, online teaching is really challenging, that a teacher should be an open-minded teacher, that teaching is not an easy profession and that good preparation works.

These insights were gained based on their challenges in their teaching practicum. The findings showed that their experiences in their online teaching opened their eyes on the reality of the life of a teacher. That being a teacher is not an easy profession and teaching is really challenging. In addition, the pre-service teachers also believe that good preparation will result to good teaching experience. With these, they realized that in order to become a good one, pre-service teachers has to pay much effort and determination in their works.

With these, the institution and the cooperating teachers should made intensive trainings and workshop in order to carefully help and assist the pre-service teachers in their roles as teachers. There should be seminars to be given to them in preparing effective learning materials that they could use in their online classes.

On Things Needed during the Implementation of Online Teaching. As perceived by the pre-service teachers, the things needed to be considered on the implementation of online teaching are teachers should find ways to connect to students online, preparation of lessons, consider the learning of the child and to establish gap between teachers and students.

Based on their experiences, the pre-service teachers believed that as online teachers, they should find ways in connecting to their students online knowing that the same difficulty with the internet connection is also experienced by the learners. This implies that there should be consideration to be given to learners who have issues with connectivity. Also, lesson preparations should be given ample time since in online teaching, various materials are needed which implies many preparations too. Additionally, as online teachers, one should think of the learning that the child may get in the online class. There has to be activities that would usher the different preferred learnings of the students. This implies that the teachers should design differentiated activities for the different types of learners. Lastly, the pre-service teachers should be trained on how manage an online class as some of the learners may think negatively on them as practice teachers only.

On Assistance to be Provided from the School, the Administrator and the Cooperating Teachers to Pre-service Teachers for their Professional Life. As perceived by the pre-service teachers, the assistance needed to be provided by the school, the administrator and cooperating teachers for their professional lives are training for teaching strategies, provision for internet connection, introduce more challenging tasks, cooperating teacher as role model, guidance from cooperating teacher and cooperating teachers gave all the support.

The need for training for teaching strategies was the cry of the pre-service teachers as they believe that the strategies they acquire in their academic subjects were strategies in teaching a face-to-face classes. There might be some strategies that are applicable, yet the struggle was still inexplicable. This implies that the institution should be designing trainings on online teaching strategies to better help the pre- service teachers in this difficulty. Also, pre-service teachers believe that as pre-service teachers, they must be given provision with internet connection as this is a factor necessary in teaching online. This implies that they must be given other means aside from the “free wifi” in the school since they are also teaching. Means might be in a form of load allowance or router.

The pre-service teachers also consider that they should be given a more challenging task so to prepare them in their profession. Because some of the pre-service teachers were given lessons that is not an English lesson, they were deprived with the experience to teach lesson of their own specialization. This implies that the tasks that must be given to them must be based on the curriculum of the high school, and not just subjects that are not related to their course. Moreover, in order to become prepared in the field of teaching, the pre-service teachers should have been provided constant and hands-on guidance from their cooperating teachers. This means that a face to face interaction with the cooperating teachers in this online worlds should be considered. By this, the pre-service teachers can get feedbacks and learnings through their cooperating teachers.

On Ways that the Experiences in Teaching English Online Prepare the Pre-service Teachers for their Teaching Profession. Based on the result of the experiences of the pre-service teachers in teaching English online, they believed that though some ideas they get on teaching, their learnings about the life of a teacher and learning on some strategies and approaches, these experiences prepared them for their teaching profession. They also believed that through these experiences, they were able to build confidence to face their students which helped them also to become prepared in their teaching profession.

The pre-service teachers consider that through the ideas they get on their experiences, they were made prepared in teaching. This implies that by actively teaching online, they received ideas on how to teach and address the needs of their learners. Also, through their online practicum, they were given realization about the teacher’s life which they also believe, is an eye-opener for them on the reality of being a teacher. By teaching English online, the pre-service teachers also learned some strategies and techniques in handling and managing the learners online, which they believe is another factor that prepared them in their chosen profession. Moreover, their online teaching practicum also enables them to build confidence to themselves in teaching learners online. These imply that the teaching practicum experiences of the

pre-service teachers significantly gave them ideas and techniques on how to become a good and effective teacher online.

Implications for Future Research

Inasmuch as the study was limited to the responses of the English pre-service teachers in Agusan del Sur State College of Agriculture and Technology, Trento External Studies Center, Purok 4 Poblacion, Trento, Agusan del Sur, the following implications for future research are considered:

First, future research may be conducted by selecting other groups of pre-service teachers, not only focusing on the Bachelor of Secondary Education major in English students but the other education courses as well. Second, another research of the same focus may be conducted to another location to explore the same phenomenon on teaching English online. Third, change of research participants to in-service teachers may be conducted to explore the insight or understanding of the in-service teachers about teaching English online to find out whether the insights of English pre- service teachers matches to insights of the in-service teachers. Fourth, this study was done in a public college. Further research could be done to explore the same phenomenon among private colleges. Fifth, the research participant mentioned using again the formal and informal theme. There should be research to be conducted as to the effectiveness of self-preparation, preparation of learning materials, ensuring better internet connection, studying the lessons first, determination in delivering the lesson, developing learning materials, searching for word meaning, engaging the students at the start of the session and using of interactive platform in teaching English online Sixth, informants proposed trainings for teaching strategies, provision for internet connection, introduce more challenging tasks, cooperating teacher as role model and guidance from cooperating teachers. With regards to this, there should be a conduct of research about having the efficacy of these programs for the students. Seventh, there should be research on the making and developing quality assurance of online teaching materials. Finally, the research could be conducted to explore the curriculum, as well as the school program, by highlighting the evaluation to the English pre-service teachers during their teaching English online.

Compliance with Ethical Standards

The goal of being infromed and giving full voluntary consent must be achieved. A letter addressed to the College President and Campus Administrator was secured before the conduct of the In-depth Interview with the participants. Before the pre-service teachers were considered as participants, consent was given and explained to them. They were clarified that their participation was voluntary and does not affect their job. The researcher ensured that they knew very well the benefit and risk they would get for their involvement. And that anytime when they wish to withdraw or would like to stop from the interview, they may do so. Thus, they were assured that the information was solely used for the study only.

The researcher also informed the participants before signing the consent that the study wanted to find out their experiences, challenges and coping mechanisms to further know their insights on their English online teaching, which participants was considered for In- Depth Interview to give clearer explanation on their experiences. The interview was done after the participants have signed the consent and have done in the specified time and venue which the participants are comfortable with. Lastly, pseudonyms were used in order to keep their identities private.

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TEACHING PERFORMANCE OF NEW CLINICAL INSTRUCTORS OF SELECTED SCHOOLS OF NURSING: TOWARDS IMPROVED QUALITY OF INSTRUCTION

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ABSTRACT

This research explores the teaching performance level of new clinical instructors in selected nursing schools within Region 12, Philippines, as perceived by deans and nursing students, against the backdrop of ongoing expectations for nurses to make meaningful societal contributions through their professionalism and competency, a critical success factor in healthcare. Utilizing a descriptive comparative research design, the study assesses perceptions via a questionnaire adapted from the World Health Organization, engaging 313 students and 14 deans through purposive sampling. Results indicate that students perceive their instructors' performance as quite confident across various domains, including adult learning, curriculum design, knowledge maintenance, research skills, communication, professionalism, evaluation, and leadership, with mean scores ranging from 3.64 to 3.85. Conversely, deans' perceptions were notably higher, reflecting very confident assessments with mean scores ranging from 4.09 to 4.69, pointing to a significant difference in perceived performance between deans and students ($p \leq 0.05$). The study concludes with a call for improved communication and alignment between instructors' teaching methods and the expectations of both students and administrative bodies, recommending the development of common assessment tools and continuous performance monitoring to bridge perceptual gaps and enhance teaching quality.

Keywords: *Clinical Instructors, Nursing Education, Teaching Performance, WHO Competencies*

INTRODUCTION

Nurses face ongoing expectations to make meaningful contributions to society through their professional roles. This involves not just administering direct healthcare, but also safeguarding individuals' well-being and aiding in everyday life tasks. To meet these responsibilities effectively, it is crucial for nurses to consistently enhance their skills and competencies and apply them in their everyday professional activities (Fukada, 2018). The role of nursing instructors in hands-on clinical training is crucial for enhancing the practical skills of nursing undergraduates (Gcawu & van Rooyen, 2022). Nurse educators are essential for enhancing the quality of healthcare staff. They act as mentors and offer the required leadership to promote practices based on solid evidence, which in turn helps to better patient results (Gutierrez, 2020).

Given the multifaceted roles and expectations for both practicing nurses and nursing educators, it becomes evident that competency is not just a requirement but a critical factor for success in healthcare. Nurse educators must have a solid competency to respond to evolving health needs (WHO, 2022). Competencies refer to the blend of individual attributes, behaviors, skills, and knowledge needed to execute tasks effectively in a job role (Satoh et al., 2020). For those in academic nursing education, a high level of proficiency is required in various areas, including instruction, scholarly investigation, hands-on clinical work, administrative tasks, effective communication, and ethical conduct (Mikkonen et al., 2018).

According to the World Health Organization (WHO, 2022), nurse educators are expected to be well-versed in modern educational theories and practical applications, especially in curriculum design and adult learning. They must stay updated on current best practices, be skilled in research and problem-solving, and communicate effectively in both educational and clinical settings. Ethics and legal considerations should be integral to their teaching, and they should use diverse evaluation methods to assess both programs and individual student performance. Strong management and leadership skills are also highlighted as essential for maintaining program quality and potentially influencing broader educational policies.

However, even though clinical skills are critical for quality patient care and successful outcomes, previous research has indicated that both practicing nurses and recent nursing graduates sometimes lack adequate competencies (Alavi et al., 2022). Furthermore, there has been limited research focus on the subject matter expertise of nurses as well as how nurse educators approach the teaching and learning aspects of their roles (Zlatanovic et al., 2017). Studies also show that challenges in clinical education have been arising including a mismatch between the expertise of educators and the requirements of internships, a shortage of qualified instructors, students' lack of motivation to learn, poor collaboration among healthcare professionals, and students not being aware of their strengths and weaknesses (Hakim, 2023).

Against this backdrop, the need for competent nurse instructors is more urgent than ever. Given the escalating demands on healthcare and the pivotal role nurses play

in this sector, particularly in the Philippines where the number of nursing graduates is essential, understanding the effectiveness of new clinical instructors is of utmost importance. Thus, the prevailing issues and concern about the competencies of clinical instructors have made the researcher interested in conducting the study, to fill a crucial gap in existing research by focusing on the teaching performance of new clinical instructors in selected nursing schools.

Research Questions

This study determined the teaching performance of new clinical instructors of selected schools of nursing. Specifically, it seeks to answer the following questions:

1. How is the level of performance of the new clinical instructor described in terms of:
   1.1. Adult Learning
   1.2. Curriculum Design
   1.3. Knowledge Maintenance
   1.4. Research Skills
   1.5. Communication
   1.6. Professionalism
   1.7. Evaluation
   1.8. Leadership
2. Is there a significant difference in the level of performance of the new clinical instructors as perceived by the deans and nursing students?
3. What is the implication of the findings of the study to nursing administration?

METHODOLOGY

The study employs a descriptive comparative research design to systematically investigate the teaching performance of new clinical instructors in selected nursing schools. The comparative research design is a strategic approach chosen for this study to enable a systematic comparison between the perceptions of different groups regarding the teaching performance of new clinical instructors in selected nursing schools (Siedlecki, 2020). This design is particularly well-suited for the investigation because it allows for the examination of the similarities and differences in opinions among two key stakeholder groups: deans and nursing students in selected nursing schools in Region
12. Employing purposive sampling, data was collected from a questionnaire adapted from the World Health Organization's (2022) guidelines on evaluating the performance of clinical instructors on 313 nursing students and 14 deans who have interacted with new clinical instructors and consent to participate in the study.

The statistical analysis of the data collected in this study was done using SPSS IBM Statistics. Descriptive statistics such as frequency, percentage, and mean were used to describe the data, and inferential statistics using a t-test was used to find out the significant differences among the variables. Ethical considerations were strictly followed in the conduct of the study, with the study obtaining necessary approvals and informed consent, ensuring voluntary participation, anonymity, and confidentiality.

The scope of this study is focused on the teaching performance of new clinical instructors in selected schools of nursing within the researcher's locale. The evaluation was based on WHO core competencies, specifically in the areas of adult learning, curriculum design, knowledge maintenance, research skills, communication, professionalism, evaluation, and leadership. In terms of limitations, the research was confined to selected schools within the researcher's locale, limiting its generalizability to other geographical areas or educational settings. Only the variables stated in the statement of the problem were examined. The period of the study was from A.Y. 2023- 2024.

RESULTS

Table 1 reveals the assessment of teaching performance domains as perceived by students and deans.

Table 1. Teaching Performance Domains as Perceived by Students and Deans

Domain	Mean Scores ($\bar{x}$)			
	Students	Interpretation	Dean	Interpretation
Adult Learning	3.64	Quite Confident	4.50	Very Confident
Curriculum Design	3.64	Quite Confident	4.44	Very Confident
Knowledge Maintenance	3.85	Quite Confident	4.69	Very Confident
Research Skills	3.70	Quite Confident	4.09	Quite Confident
Communication	3.79	Quite Confident	4.50	Very Confident
Professionalism	3.84	Quite Confident	4.63	Very Confident
Evaluation	3.73	Quite Confident	4.44	Very Confident
Leadership	3.79	Quite Confident	4.44	Very Confident
Overall	3.75	Quite Confident	4.47	Very Confident

(Legend: 4.21-5.00 -Very Confident; 3.41-4.20 - Quite Confident; 2.61-3.40; Moderately Confident; 1.81-2.60 - Slightly Confident; 1.00-1.80 -Not Confident)

While both groups show positive perceptions, the overall mean scores reveal a significant disparity, with students being "Quite Confident" (3.75) and deans "Very Confident" (4.47) in the instructors' teaching performance.

Table 2 presents the results of a comparative analysis of the perceived level of performance of new clinical instructors between deans and students.

Table 2. Differences in the Level of Performance of New Clinical Instructors as Perceived by the Deans and Students

Domain	T-statistics	P-value	Decision	Interpretation
Adult Learning	61.515	0.00	Reject null hypothesis	Significant
Curriculum Design	61.278	0.00	Reject null hypothesis	Significant
Knowledge Maintenance	61.538	0.00	Reject null hypothesis	Significant

Research Skills	58.156	0.00	Reject null hypothesis	Significant
Communication	62.881	0.00	Reject null hypothesis	Significant
Professionalism	61.214	0.00	Reject null hypothesis	Significant
Evaluation	60.744	0.00	Reject null hypothesis	Significant
Leadership	59.53	0.00	Reject null hypothesis	Significant

p ≤.05 significant

Deans and students have significantly different perceptions of how well clinical instructors perform in the area of Adult Learning (t=61.515, p≤.05). Deans and students hold also significantly different views on the performance of clinical instructors in terms of curriculum development (t=61.278, p≤.05). For knowledge maintenance (t=61.538, p≤.05), Deans and students have significantly different perceptions regarding clinical instructors' performance in maintaining knowledge. Deans and students have also significantly divergent opinions on the research skills of clinical instructors (t=58.156, p≤.05). There is a significant difference in the perceived level of performance between deans and students in Communication (t=62.881, p≤.05). Moreover, there is a significant difference in the perceived level of performance between deans and students in terms of Professionalism (t=61.214, p≤.05). Lastly, there is a significant difference in the perceived level of performance between deans and students in Leadership (t=59.53, p≤.05).

DISCUSSION

The student assessments of clinical instructors' teaching performance in this study reveal a positive perception, particularly in the application of adult learning principles, curriculum design, and communication skills, reflecting a strong competence in motivating self-directed learning and engaging students in course planning (Saeedi et al., 2021; Haleem et al., 2022). However, there is a noted need for further emphasis on accommodating diverse learning speeds, an essential aspect of effective adult education (McCall et al., 2018). While students displayed confidence in their instructors' knowledge maintenance and research skills, minor gaps in the ability to perform accurate patient assessments and quantitative research skills were identified, aligning with the findings of Vaismoradi et al. (2020) and Bullo et al. (2021). The overall student perception underscores the instructors' proficiency in key educational areas but also highlights areas for development to enhance nursing education and practice.

The deans' assessment mirrors and extends the students' positive evaluation, especially in areas such as adult learning, curriculum design, and knowledge

maintenance, showcasing a high level of confidence in clinical instructors' abilities to foster autonomous learning and utilize technology effectively in education (Chowdhury, 2021; Rodríguez-Almagro et al., 2021). However, slight improvements are needed in collaborative curriculum planning and evidence-based care implementation, resonating with the challenges discussed in Handelzalts (2019) and Lamontagne et al. (2021). Deans also emphasize the significance of research mentorship and effective communication in nursing education, aligning with Gularte-Rinaldo et al. (2023) and Ferrández-Antón et al. (2020). Professionalism and leadership qualities of instructors were highly regarded by deans, with minor areas for enhancement in ethical discussions and broader leadership roles, highlighting the ongoing development needed to meet the evolving demands of nursing education (Haddad & Geiger, 2023; Horstman & Godwin, 2021).

The findings from both student and dean assessments illustrate a comprehensive acknowledgment of clinical instructors' strengths in various educational domains, aligned with the study's objectives to evaluate teaching performance. These results not only corroborate with existing literature by demonstrating the effectiveness of instructor-led motivation and the use of technology in education (Saeedi et al., 2021; Rodríguez- Almagro et al., 2021) but also identify areas for improvement such as recognizing diverse learning speeds and implementing evidence-based care (McCall et al., 2018; Lamontagne et al., 2021). The consistency with other investigations signifies a broad recognition of these competencies and development needs in nursing education. Nevertheless, the noted differences in confidence levels between students and deans suggest varying perspectives on the instructors' effectiveness, underscoring the importance of continuous professional development and adaptive teaching strategies to enhance the quality of nursing education and meet the diverse needs of learners.

Conclusions

Based on the findings of the study, new clinical instructors are highly confident in their teaching performance as viewed by the dean and students. It is further concluded that there is a significant difference in how new clinical instructor’s teaching performances are viewed. Overall, the results highlight the need for improved communication and collaboration between deans and students in the assessment of clinical instructors. It is recommended to introduce training and professional development programs for new clinical instructors aimed at refining their teaching abilities in line with both student and dean expectations. To ensure a consistent evaluation of clinical instructor performance, the development and implementation of standardized evaluation criteria and assessment tools, agreed upon by both deans and students, are suggested. This approach would facilitate a unified framework for assessment. Furthermore, establishing a system for the ongoing evaluation and monitoring of clinical instructors, incorporating feedback from both deans and students, will aid in pinpointing areas needing enhancement.

Recommendations

For future research, broadening the study to encompass a wider and more varied sample size and extending its geographical coverage to include

multi-region

investigations is recommended. This expansion would provide a more comprehensive insight into the perceptions of clinical instructor performance, potentially uncovering region-specific challenges and best practices.

Compliance with Ethical Standards

Stringent ethical guidelines were upheld to guarantee the study's integrity and participant well-being. Approval was secured from the institutional review board, and informed consent was obtained from all deans and nursing students involved, ensuring their awareness of the study's aims, voluntary participation, and confidentiality. Participant anonymity was maintained by using code numbers for identification, and all data were to be securely deleted post-study. The researcher conducted the study without any conflict of interest, took measures against plagiarism, and ensured objective interpretation of the findings, using the results solely to advance research in nursing education.

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THE FEASIBILITY OF ESTABLISHING A MANUFACTURING COMPANY IN THE PHILIPPINES THAT PRODUCES CORN/SOY MEAL TO REDUCE MALNUTRITION AMONG CHILDREN IN THE PHILIPPINES

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ABSTRACT

This feasibility study was done to determine the feasibility of establishing a manufacturing company that produces Corn/Soymeal to reduce malnutrition among children in the Philippines. In this feasibility study, both quantitative and qualitative methodology was used to carry out the feasibility studies. In the quantitative methodology, statistical data was gathered from the Department of Education (DepED), the World Food Programme, and other important agencies, both public and private, as well as international organizations whereas for the qualitative methodology, interviews were conducted at the DepEd to get more information about the market, industry. The research paradigm followed an interpretive school of thought. The variables used in this research were independent and dependent variables. Some of the dependent variables were the data obtained from interviews conducted at DepEd. The independent variables were the DepEd employees and the World Food Programme because the findings of the feasibility studies depended on the data they provided. It was discovered that there is a considerable market opportunity for Corn/Soy meal in Metro Manila and that the utilization of recent and highly advanced types of machinery equipment will give the business a huge potential for success and increased productivity.

Keywords: *Malnutrition, quantitative methodology, qualitative methodology, variables, Independent variables, Dependent variables*

INTRODUCTION

Malnutrition is very present in underdeveloped countries in the world. The World Health Organization (WHO) defines good nutrition as the adequate, well-balanced intake of food in relation to the body's dietary needs. Malnutrition is an encompassing term for the various forms of poor nutrition, whether it is excess consumption of nutrients (overnutrition) usually afflicting the obese, or inadequate consumption of nutrients (undernutrition) common with those suffering from extreme and prolonged hunger. The National Capital Region (NCR) of the Philippines has many depressed areas. Some of these areas include Tondo, San Andres of the City of Manila, Batasan Hills, Bagong Silangan, Payatas of Quezon city, West Rembo of Makati City, and Barangay Sta. Lucia of Pasig City, Libertad of Pasay City, and Kabihasnan area of Paranaque City.

When assessed along with the Child Growth Standards set by WHO, child undernutrition has three indicators: underweight (low weight-for-age, including low birth weight), wasting (low weight-for-height), and stunting (low height-for-age). An exhaustive 54-country study of maternal and child undernutrition published in 2010 in The Lancet, one of the world's oldest and prestigious weekly peer-reviewed general medical journals, "found that height- for-age at two years was the best predictor of human capital and that undernutrition is associated with lower human capital." It also stressed that "it is during the child's first 1000 days when the most pronounced growth reduction is observed compared to other stages in a child's development." There's also a World Bank study that found out that "a one- percent loss in adult height as a result of childhood stunting is linked with a 1.4-percent loss in economic productivity, resulting in 20 percent less earnings as adult." It added that stunting "is associated with up to 3 percent GDP losses annually."

The non-government organization, Save the Children Philippines, also made an in-depth study in 2016 which revealed that "education and productivity losses as a result of child undernutrition amounted to a total of 1,328 billion in 2013." The amount was equivalent to 2.84 % of the Philippines' GDP that year. The study pointed out that of the 330,418 students who repeated a grade level in 2013, about 15% or 48,597 students "had repeated a grade level as a result of under-five stunting. An additional 11.23 billion was required to cover the costs of grade-level repetitions for these stunted children." It said that stunting costs the Philippines some 1,326.5 billion in lost productivity. To address undernutrition among public school students, the Department of Education in 2016 asked schools to establish the Gulayan sa Paaralan Program (GPP) "as a source of ingredients for the School-Based Feeding Program and encourage families of beneficiaries to have their own home garden for the continuous nutritional improvement at home."

The F. Serrano Sr. Elementary School in Parañaque City is among the best to implement GPP. "The school boasts some fruit-bearing trees, urban vertical gardening, containerized gardening, aquaponics, circulating and non-circulating hydroponics, and fishponds. The non-circulating hydroponics will be seen on every floor of the school building. The school harvests organic vegetables such as pechay, mustard, and eggplants which are used as ingredients for the school's feeding program," DepEd said.

The successful implementation of GPP in the most impoverished areas of the country will go a long way in battling undernutrition (Att.Joey.D.Lina, Joey. 2018).

The invaluable help of the private sector and more NGOs will certainly boost efforts to rid the menace plaguing Filipino children. And foremost among these efforts ought to be poverty reduction." In the year 2013 my sister who was a Registered State Nurse working in a Gynecology and Obstetrics hospital in Yaoundé, Cameroon, saw cases of malnutrition in the pediatric ward of the hospital. After some months of experimenting and research, she and another partner came up with a perfect blend of soy/corn meal named SIM & NAMY –Bouillie de Royaume au Soja which was validated as nutritious by a government-owned laboratory in Cameroon known as the Cameroun Laboratoire d'analyse Physiochimiques (The Cameroon Laboratory for Physiochemical Analysis). Associating the researcher's knowledge of the soy/corn meal business back in Cameroon with the feasibility studies in Metro Manila, the researcher came up with a feasibility study on how to establish a soy/corn meal-producing factory in Metro Manila in 2019. The products of the soy/corn meal are intended to be sold to the Department of Education, Department of Social Welfare and Development (DSWD), non-government institutions, charitable organizations, and local municipalities, all of which have feeding programs to help address malnutrition of public school students. To objective is to determine the feasibility of establishing a manufacturing company in the Philippines that produces Corn/Soy meals to reduce malnutrition among children in the Philippines.

The general objective of this feasibility study is to determine the feasibility of establishing a manufacturing company in the Philippines that produces Corn/Soy meals to reduce malnutrition among children in the Philippines. The specific objective is to determine the specific resources that will be needed to establish a company that makes Corn/Soy meals. When taking into consideration the Marketing, Management, Technical, and Financial aspects. The feasibility study also has short-term and long-term objectives. In terms of short-term objectives, the project intends to improve the health of its consumers, especially malnourished children, by providing them with essential nutrients.

Another short-range objective is to make the soy/corn meal very affordable to the Department of Education, Department of Social Welfare and Development (DSWD), Non- government institutions and charitable organizations, and local municipalities by reducing the cost of production of the soy/corn meal. As for the long-term objective the project intends to make the soy/corn product compete internationally. The project intends to introduce the soy/corn meal in the ASEAN market and in other areas of the world that don't have the same or similar products. This will allow the company to be more profitable. In addition, the project aims to establish different branches in Asia, Africa, and Europe. Another long-term objective is to constantly provide donors to international organizations like UNICEF and the World Health Organization (WHO) so that they can assist less developed countries.

Soybean helps malnourished children to gain weight. A study was conducted to determine the effect of two soybean-based products on malnourished children under five years in the Ruhango district in Rwanda (Africa). From the study only soybean flour, soybean milk,

and tofu were well-known soybean products in the Ruhango District. Soybean flour was mixed with vegetables and other foods. The intervention with soybean milk and soybean soup had improved the nutritional status of malnourished children. The means weight gain of children using soybean milk and soybean soup was high: 0.9 kg for soybean milk treatment and 0.9 kg for soybean soup (Niyibituronsa M1, Kyallo F, Mugo C and S Gaidashova , 2014).

Establishing good eating habits early in life is important. Childhood dietary intake may impact adult chronic disease risk and influence eating habits in adulthood. Soy foods provide important options for improving the diets of young people and research shows that these foods are acceptable to children. Therefore, soy foods can be viewed as healthy additions to the diets of children and adolescents. Other than relatively rare soy protein allergy, there is no clinical evidence that soy foods exert any adverse effects. On the contrary, there is evidence suggesting that exposure to soy during childhood and/or adolescence reduces breast cancer risk later in life (Messina, Mark, PhD). More recently, researchers from the National Cancer Institute reported that, in comparison to low-soy consumers, women who were classified as high-soy consumers at ages 5-11, 12-19, and 20+ years, were 58, 21 and 29 percent less likely to develop breast cancer, respectively (Korde LA, Wu AH, Fears T, et al., 2006).

Also, a just-published U.S. study found that higher soy food intake during adolescence was associated with a 28 percent reduction in adult breast cancer risk, whereas consuming higher amounts of soy during adulthood was only very modestly protective (Wu AH, Yu MC, Tseng CC, Stanczyk FZ, Pike MC, 2009).Soy foods are generally well- accepted by children according to studies (Ashraf HR, Schoeppel C, Nelson JA, 1990). For example, among preschool children aged three to six years who attended a Head Start program, children consumed soy-enhanced lunches as readily as those made with more traditional ingredients, as evidenced by the amounts eaten (Endres J, Barter S, Theodora P, Welch P, 2003).

Short-term studies show that soy foods support the normal growth and development of children, and improve growth when substituted for legumes in the diets of malnourished pre-schoolers (Kay T, Ifeacho CL, Onowu G, et al, 1975). As in adults, 61 clinical research in children shows that soy protein directly lowers serum cholesterol levels and improves levels of other lipids. (Laurin D, Jacques H, Moorjani S, et al, 1991).In the most recent study, when soy protein (average intake 0.5 g/kg body weight) was incorporated into the diets of children and adolescents (mean age, 8.8 years; range 4-18 years) with familial and polygenic hypercholesterolemia, low-density lipoprotein cholesterol decreased by 6.4 percent beyond the 11 percent decrease that occurred in response to the adoption of a standard low-saturated fat diet during the three-month run-in period (Weghuber D, Widhalm K, 2008). More so one recent study reported that more than 80 percent of infants outgrew their soy allergy by two years of age (Aaronov D, Tasher D, Levine A, Somekh E, Serour F, Dalal ,2008).

Research Questions

1. Can we establish a manufacturing company in the Philippines that produces Corn/Soy meals to reduce malnutrition among children in the Philippines?
2. Can a combination of Corn and Soybean be used to treat malnutrition?
3. Is there a market in the Philippines for a manufacturing company that produces Corn/Soy meals to reduce malnutrition among children in the Philippines?

METHODOLOGY

The secondary data used in this study was gathered from the Department of Education (DepEd), the World Food Programme, and other important agencies, both public and private, as well as international organizations. Interviews were conducted at the DepEd to get more information about the market and the industry. In this feasibility study, both quantitative and qualitative methodology was used to carry out the feasibility studies. In the quantitative methodology, statistical data was gathered from the Department of Education (DepEd), the World Food Programme, and other important agencies, both public and private, as well as international organizations whereas for the qualitative methodology, interviews were conducted at the DepEd to get more information about the market and the industry. The variables used in this research were independent and dependent variables. Some of the dependent variables were the data obtained from interviews conducted at DepEd meanwhile the independent variables were the DepEd employees and the World Food Programme. In this feasibility study, SWOT analysis, demand analysis, ratio analysis, and sensitivity analysis were used.

RESULTS

The gross margin ratio is 83% which implies the company will retain 0.83 pesos for each peso of revenue generated. In addition, the net profit margin ratio is 18% which implies that for every peso generated by the company in sales, the company will keep 0.18 pesos as profit. As for the return on the investment, the company will make an ROI of 14%. The break-even analysis gives us 74%. Finally, a sensitivity analysis was done in this feasibility study and it took into account the fluctuation in the cost of raw materials (soy and corn). The sensitivity analysis demonstrated that the gross profits made by the company are directly influenced by the prices of the raw materials as well as by the cost of production. It is noticed that as the prices of all raw materials increase the cost of production also increases thereby leading to a constant fall in gross profits.

DISCUSSION

Malnutrition is a problem in the Philippines so this feasibility study was done to determine the feasibility of establishing a manufacturing company in the Philippines that produces Corn/Soymeal to reduce malnutrition among children in the Philippines. While doing this feasibility study certain key findings were noted. It was discovered that there is a considerable market opportunity for Corn/Soy meal in Metro Manila and that the utilization of recent and highly advanced machinery and equipment gives the business a huge potential for success and increased productivity. Also, a SWOT analysis, demand analysis, ratio analysis, break-even analysis, and sensitivity analysis will be very important for the realization of establishing a manufacturing company in the Philippines that produces Corn/Soymeal to reduce malnutrition among children in the Philippines. In the SWOT analysis, we have strengths like providing the customers with healthy and organic products, which will improve the overall health of children and help malnourished children to gain good weight. The weaknesses include limited capital investment and also the production capacity in the first years of operations cannot satisfy the large demand of the government and charitable organizations. The opportunities on the other hand will include the availability of the raw materials used in making the soy/corn meal in the Philippines, the availability of funds, the constant initiatives and concerns expressed by the Department of Education, Department of Social Welfare and Development (DSWD) to eradicate undernourishment cases in the Philippines and the presence of charitable organizations who also aim at eradicating malnutrition in the Philippines. Finally, the threats will include bad climatic conditions in the Philippines such as strong typhoons which may reduce the amount of corn or maize harvested thus limiting the production of soy/corn meal in return, and the occurrence of high inflation rates in the Philippines. The feasibility study had some limitations. It did not interview all the employees at the DepEd or make sure that those who were interviewed had sufficient knowledge of malnutrition among children in the Philippines and sufficient knowledge of the market and industry. For the ratio analysis, we can observe certain limitations. For example, the net profit margin does not provide insight as to whether management is managing its production cost. In addition, the return on investment in the ratio analysis does not take into account the time value of money and the break-even analysis does not take into account competitors and it does not also take into account the fluctuation of the prices of raw materials in the future.

Conclusions

The feasibility study revealed that the establishment of a manufacturing company in the Philippines that produces Corn/Soy meals to reduce malnutrition among children in the Philippines is very possible. Due to its similar protein content to that of cow's milk, soybean milk can be used to treat malnutrition. When corn and soya beans are combined, malnourished kids can acquire weight and maintain their health extremely quickly. This is one of the main blended foods that the World Food Programme (WFP) distributes to fight malnutrition. The business has a large potential for growth in the Philippines and so

entrepreneurs should invest in this specific market since there are significant profits to be obtained from this business.

Recommendations

The author believes that there is a huge market for any investor who engages in this sector of activity as the economy of the Philippines continues to grow. It is recommended that more entrepreneurs should invest in this specific market since there are significant profits to be obtained from this business

Compliance with ethical standards

The respondent's well-being in this study was safeguarded. Their names were not divulged and they remained anonymous. There was no plagiarism or bias in the interpretation of the findings and the results of the findings were used solely for research purposes.

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THE INFLUENCE OF MOTHER TONGUE TOWARDS LEARNING ENGLISH LANGUAGE AMONG SENIOR HIGH SCHOOL STUDENTS OF SULU NATIONAL HIGH SCHOOL

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ABSTRACT

The study is a descriptive research which deals with the influence of mother tongue towards learning English language among senior high school students of Sulu National High School..It also discusses the respondents' socio-demographic characteristics, including gender, age, ethnicity, grade level, and parents' educational background, as well as the degree to which mother tongue influences Sulu National High School senior high school students. It also addresses the notable variations in the degree to which mother tongue influences English language acquisition among Sulu National High School senior high school students at MBHTE - Division of Sulu when data are categorized by socio-demographic profile, including gender, age, strand, grade level, and parental educational attainment. Purposive sampling procedure was used in selecting the respondents of the study. The research instrument is composed of two parts. Part I is about the demographic profile of the respondents which includes their gender, age, strand, and grade level, and parent's educational attainment. Part II is composed of 20 statements on the influence of mother tongue in English language learning among senior high school students of Sulu National High School. There are five (5) options available, ranging from "strongly disagree" to "strongly agree." It was discovered that the parents are not highly educated, the senior high school children of the appropriate age for their current grade level, and an equal number were selected from each strand. All of the respondents concur that learning English depends in part on one's mother tongue. Regarding gender, age, grade level, strand, and parents' educational attainment, there is no discernible difference.

Keywords: *Mother tongue, English language learning, SNHS, Senior High School, Descriptive research*

INTRODUCTION

A child learns their mother tongue as their first language, according to Ojo (2005). In their formative years. Mother tongues are not taught; they are learnt. The children's early ideas are encoded in their mother tongue. The mother tongue of a multilingual person acts as a symbol of their original culture. Mother language also contributes to the preservation of cultural heritage and practices. It is a source of pride and a sense of belonging that is integral to peoples' identities. Because of this, it's imperative to cherish mother tongue and promote its use and learning.

The best language abilities and intuitive understanding are found in mother tongues. It facilitates successful communication for the multilingual individual. The student must possess the fundamental abilities of speaking, reading, writing, and listening. A person's mother tongue is necessary for their sociolinguistic, cultural, and personal uniqueness. When speaking and acting in one's mother tongue, one reflects societal norms. A group of people's mother tongue eventually turns into their primary means of cognition and communication, Benson (2005).

A person's mother tongue is responsible for identifying their level of language proficiency. When learning one's mother tongue, both conscious and unconscious approaches are employed. A child learns their mother tongue consciously through listening. The mother tongue plays a crucial role in the growth of education's intellectual, moral, and academic domains. Speaking in one's native tongue facilitates comprehension, handling, and communication in all other academic topics. Someone may be able to communicate and think coherently if they are fluent in their mother tongue. It will be difficult for students whose mother tongue is weak to express themselves or their thoughts. A person cannot have fresh insights, appreciation, extension, or expansion of notions unless they are able to understand the subject matter through their mother tongue (Awopetu, 2016).

The findings of Boga's (2015) study, which was carried out in Davao City, show that students' native tongue language effect makes it difficult for them to understand other courses offered in English. Using one's native tongue as a teaching medium has benefits, but it also affects students' English language proficiency, which could cause issues academically by the time they reach fourth grade, according to one English teacher in the Province of Davao del Sur, specifically in Digos City, Bancale (2018).

Lina Septianasari (2019) embarks the study about the “problems with mother tongue and difficulties learning English as a foreign language”. For some learners, learning English as a foreign language (EFL) can be quite difficult. Somehow, learning their mother tongue can be a barrier to understanding the new language. The interference

of their mother tongue has a somewhat negative impact on EFL learners' language acquisition. Finding out how learners' mother tongues affect their English language competency and what difficulties EFL learners encounter when learning English as a second language are the two main objectives of this study. This sample's population consists of EFL students at Bandung University.To get the data, the researcher employed purposive sampling. When gathering data, triangulation is employed. These are the interview, test items, and observation. The data is analyzed using applicable theories. The data illustrates how phonological and grammatical characteristics of a learner's native language impact their ability to produce language. Speech production is difficult for English as a foreign language (EFL) speakers because English and Bahasa Indonesia have distinct sound systems. Mother tongue interference has been found to impact English vowels and consonants.

Drs. Judie Arulappan and Davis Daniel started studying the "influence of mother tongue in teaching and learning English language" in 2020. Language is the random creation of symbols that convey ideas, information, emotions, and wants. Thoughts, ideas, and feelings are connected through language. One tool for communication is language. People utilize many different languages all throughout the world. Despite the fact that all languages are intended for communication, a lot of individuals communicate in English. People who do not speak English as their mother tongue also utilize it. English language instruction is crucial in the era of globalization. English is the only official language in the world that is universally understood. The effect of mother tongue on English language learning and education has long been a topic of discussion. The dissimilar sound systems of the mother tongue and the English spelling system are the cause of the pronunciation errors. Therefore, the problem can be rectified by including the English language in the core curriculum and promoting spoken English fluency. The sound patterns that are likely to confuse and make you stumble when speaking your mother tongue can be recognized and practiced. Students should practice these sound patterns on a regular basis using a native speaker's model voice. These actions will eliminate the mother tongue's influence on English language education and learning, resulting in a faster rate of English language acquisition.

English language instruction has become increasingly important in Nigeria over time. The Ikom Local Government Area was the subject of a case study conducted by Ochagu, Kaka A., and Agban Joy Obim in 2022 for their study, "Influence of Mother-Tongue on English Language Use Selected Mother-Tongue Factors Affecting English Language Usage." Given the importance of English and its practical applications, English language proficiency is a must for all Nigerians. This is due to the fact that national language development in Nigeria is impossible due to linguistic variation. This explains why English is associated with significant usage domains in Nigeria. The aim of this research was to investigate and gain a deeper understanding of the influence of mother tongue on English spoken in Nigeria. This study focuses on specific mother-tongue elements that influence Nigerians speak English. To properly modify components and yield reliable results, the goal of this work is to examine mother-tongue interference at the phonetic and phonological levels. 150 Ikom learners/users of English, whose mother tongue is Ikom, were selected as SSS3 students from three high schools in the Ikom

Local Government Area of the Cross-River State. Apart from (phonetic) articulation assessments, tape recorders and smart recorders were employed to gather data. For the data analysis, a quantitative and descriptive methodology was used. The internet, newspapers, online and physical libraries, and pertinent textbooks were used as data sources. The findings show that English has a negative impact on the mother tongue of Ikom users and learners when it comes to pronouncing English vowels, consonants, and consonant clusters as well as supra-segmental elements like stress and intonation.

Based on the aforementioned study, this research will ascertain the degree to which mother tongue influences English language acquisition at MBHTE-Sulu in the 2023–2024 school year. The purpose of this study is to collect empirical data that will form the foundation for describing how mother tongue influences English language acquisition.

Research Questions

This study aimed to determine the extent of influence of mother tongue towards learning English language among senior high school students of Sulu National High School, Ministry of Basic Higher and Technical Education in Sulu during the School Year-2024.

Specifically, it answered the following questions:

1. What is the socio-demographic profile of the students-respondents at Sulu National High School, MBHTE-Sulu in terms of:
    1.1 Gender;
    1.2 Age;
    1.3 Grade Level;
    1.4 Strand; and
    1.5 Parent's Educational Attainment?
2. What is the extent of influence of mother tongue towards learning English language among senior high school students at Sulu National High School, MBHTE-Sulu?
3. Is there a significant difference in the extent of influence of mother tongue towards learning English language among senior high school students at Sulu National High School when data are grouped according to their demographic profile in terms of:
    1.1 Gender;
    1.2 Age;
    1.3 Grade Level;
    1.4 Strand; and
    1.5 Parent's Educational Attainment?

METHODOLOGY

Research Design

This study employed a descriptive-survey research approach to determined how mother tongue influence in learning English language among senior high school students at Sulu National High School. Any potential consequences of implementing the remote learning program will be outlined in the previously mentioned design.

Information about the topic was created using this style. The study aims to characterize and measure how mother tongue affects students' learning of the English language. With this strategy, they were able to make sense of their ambiguity in their field of study.

Research Locale

Numerous senior high school students at Sulu National High School were the subject of this study. This is scheduled to take place at the aforementioned school in 2023–2024. This school is among the populated in the province.

Respondents of the study

Senior high school students from Sulu National High School are involved in this study. The Finding out what respondents think about the influence of mother tongue towards learning English language is the aim of the study. The respondents listed above have been categorized based on their areas of academic expertise.

Patikul District, MBHTE-Sulu

Sulu National High School

Grade level	Strand	Section	frequency
Grade 11	Stem	1	10
Grade 11	ABM	2	10
Grade 11	HUMSS	2	10
Grade 11	GAS	2	10
Grade 11	Arts and Design	1	10
Grade 12	Stem	1	10
Grade 12	ABM	2	10
Grade 12	GAS	2	10

Grade 12	Arts and Design	1	10
Grade 12	HUMSS	2	10
Total			100

Sampling Design

The sample method that was employed is the purposive sampling procedure. In order to get information from the respondents, the researcher uses a sampling strategy. The best way to collect participant data is through this approach. The survey questionnaire is then disseminated.

By employing this sampling strategy, the researchers can obtain the data they need for their respondents very rapidly. All they do is provide the selected respondents with the survey questions.

Data Gathering Procedures

In the collection of the data, the following steps will be employed:

1) First, permission to administer the questionnaire was obtained from the Sulu State College Graduate Studies Dean; next, the Sulu National High School Principal; and last, the Senior High School Coordinator.

2) The researcher launched, administered, and retrieved the questionnaire personally.

Research Instrument

A survey questionnaire was the instruments in this study in gathering the data on demographic profile and the extent of the influence of mother tongue towards learning English language among senior high school students at Sulu National High School. The purpose of the survey is to gather information on how mother tongue has improved English language proficiency at Sulu National High School, MBHTE-Sulu senior high school students in the academic year 2023–2024. This Survey questionnaire was adapted from the study of Olu Oyewole, Ph.D (2017).

The research instruments employed in this investigation were divided into two components. The first section of the questionnaire asked questions about the respondents' age, gender, grade level, and parents' educational attainment. Additionally, the second section concentrated on gathering information about how much senior high school students at Sulu National High School were influenced by their mother tongue when learning English.

Under the extent of the influence of mother tongue towards learning English language among senior high school students at Sulu National High School contained

twenty (20) items and were answered through 5-points likert scales such as 5=Strongly Agree, 4=Agree, 3=Undecided, 2=Disagree, 1=strongly disagree.

Statistical Treatment of Data

1. For the research problem number one (1), the socio-demographic profile of the respondents at Sulu National High School, MBHTE-Sulu, was ascertained by using frequency and percentage in relation to the following variables: gender, age, grade level, and parental educational attainment.
2. For the research problem number two (2), The study employed means and standard deviation to evaluate the influence of mother tongue on English language learning among senior high school students at Sulu National High School, MBHTE-Sulu as well as the variables that led them to sign up for the program.
3. For research problem number three (3), One-way Analysis of Variance (ANOVA) was used to determine the significant differences when the data were grouped according to age, civil status, Strand, and parents educational attainment; when the data were grouped according to gender, the t-test for independent samples was used to determine the extent of influence of mother tongue towards learning English language among senior high school students at Sulu National High School, MBHTE-Sulu.

RESULTS

1. ***What is the socio - demographic profile of the senior high school students of Sulu National High School in terms of 1.1 gender, 1.2 age, 1.3 grade level, and 1.4 parent's educational attainment?***

Demographic Profile of the Respondents in terms of Gender

Table 1.1 shows the demographic profile of the respondents in terms of gender. Fifty-three percent (53%) of the respondents are males and 47% are females.

Table 1.1 Demographic Profile of the Respondents in terms of Gender

Gender	Frequency	Percentage
Male	53	53%
Female	47	47%
TOTAL	100	100%

Demographic Profile of the Respondents in terms of Age

Table 1.2 presents the demographic profile of the respondents in terms of age. It showed that 85% of the respondents are between 16 – 20 years old and only 3% are 15 years old and below.

Table 1.2 Demographic Profile of the Respondents in terms of Age

Age	Frequency	Percentage
15 years old and below	3	3%
16 – 20 years old	85	85%
21 – 25 years old	12	12%
TOTAL	100	100%

Demographic Profile of the Respondents in terms of Grade Level

Table 1.3 presents the demographic profile of the respondents in terms of grade level. It showed that 50% of the respondents were taken from each grade level.

Table 1.3 Demographic Profile of the Respondents in terms of Grade Level

Grade Level	Frequency	Percentage
Grade 11	50	50%
Grade 12	50	50%
TOTAL	100	100%

Demographic Profile of the Respondents in terms of Strand

Table 1.4 presents the demographic profile of the respondents in terms of strand. The table shows that almost equal number of respondents were taken from each strand.

Table 1.4 Demographic Profile of the Respondents in terms of Strand

Strand	Frequency	Percentage
STEM	21	21%
HUMSS	20	20%
ABM	20	20%
GAS	19	10%
Arts and Design	20	20%
TOTAL	100	100%

Demographic Profile of the Respondents in terms of Parent's Educational Attainment

Table 1.5 presents the demographic profile of the respondents in terms of parent's educational attainment. It showed that 45% of the parents reached elementary level in education while only 7% has no formal education. None of the parents finish masters/doctorate degree.

Table 1.4 Demographic Profile of the Respondents in terms of Educational Attainment

Educational Attainment	Frequency	Percentage
No Formal Education	7	7%
Elementary Level	45	45%
Secondary Level	28	28%
College Level	20	20%
Masters/Doctorate Degree	0	0%
TOTAL	100	100%

2. What is the extent of influence of mother tongue towards learning English language among senior high school students of Sulu National High School, MBHTE – Sulu?

Table 2.1 presents the influence of mother tongue towards learning English language among senior high school students of Sulu National High School.

It showed that the respondents indicated ***strongly agree*** only in statement 11 and ***undecided*** in statement 20 only. For the rest of the statements, they indicated ***agree***. They ***strongly agree*** that it is easy for the students to understand the lessons with the use of mother tongue (mean = 4.566, SD = .592) and ***undecided*** if mother tongue can distract students' confidence (mean = 3.475, SD = .761). For ***agree***, some of the statements are; mother tongue can boost students' comprehension about the subject (mean = 4.152, SD = .541); Students who are dependent on their mother tongue may find it difficult to form basic sentences in the English language (Mean = 4.172, SD = .655); and mother tongue can lead to students' difficulties in learning English language (mean = 4.040, SD = .638). The average mean of 3.758 means that the respondents ***agree*** that mother tongue can influence learning English language among senior high school students of Sulu National High School, MBHTE – Sulu.

Table 2.1 Extent of the Influence of Mother Tongue in Learning English Language among Senior High School Students of Sulu National High School, MBHTE – Sulu

INFLUENCE OF MOTHER TONGUE	Mean	SD	Interpretation
1. Mother tongue can alter the way students read and speak in English.	3.990	.631	Agree
2. Students can be greatly affected if they use English language to explain some concept in the subject itself and not in their mother tongue.	3.849	.360	Agree
3. Permission to use mother tongue in teaching can affect other language especially in English language.	3.717	.453	Agree
4. Students can adapt to the teaching and learning environment without the use of mother tongue.	3.707	.520	Agree
5. Students always have good grade in a subject that teachers use mother tongue to teach.	3.970	.677	Agree
6. The use of mother tongue in school as way of effective communication can be corrected and student will adapt to it.	3.849	.787	Agree
7. Explanation of subject's concept in mother tongue brings about proper understanding and assimilation.	4.141	.404	Agree
8. The student's use of mother tongue can affect other grammar language.	4.141	.452	Agree

9. It is necessary for a teacher to use the student's mother tongue for effective communication to take place.	3.929	.520	Agree
10. Students who is addicted to use mother tongue may likely to have problem in constructing simple sentence in English language.	4.172	.655	Agree
11. It is easy for the students to understand the lessons with the use of mother tongue.	4.566	.592	Strongly Agree
12. Mother tongue can boost students' comprehension about the subject.	4.152	.541	Agree
13. Mother tongue is a reflection of what has been instilled in a child from childhood or from his/her school.	3.990	.814	Agree
14. The use of mother tongue in school can enhance students' confidence.	3.788	.558	Agree
15. Students can easily understand the instruction when mother tongue is observed.	3.960	.684	Agree
16. It is necessary for the students to use mother tongue in school.	3.920	.340	Agree
17. Students who is addicted to use of mother tongue may get a higher grade.	3.920	.650	Agree
18. Mother tongue can enhance students' motivation in learning.	3.798	.969	Agree
19. Mother tongue can lead to students' difficulties in learning English language.	4.040	.638	Agree
20. Mother tongue can distract students' confidence.	3.475	.761	Undecided
AVERAGE	3.758		AGREE

LEGEND

SCALE	RANGE	INTERPRETATION
5	4.50 – 5.00	Strongly Agree
4	3.50 – 4.49	Agree
3	2.50 – 3.49	Undecided
2	1.50 – 2.49	Disagree
1	1.00 – 1.49	Strongly Disagree

3. ***Is there a significant difference in the extent of the influence of mother tongue towards learning English language among senior high school students of sulu National School, MBHTE – Sulu when data are grouped according to age, gender, grade level, strand, and parent's educational attainment?***

The t-test was used for gender since there are only two categories. The sig. value of 0.540 is greater than the p - .05, 2- tailed tests. It means that the null hypothesis is accepted.

There is no significant difference in the extent of the influence of mother tongue in learning English language among senior high school students of Sulu National High School, MBHTE- Sulu when data are grouped according to their gender.

Table 3.1 t – test for Significant Difference in the Extent of the extent of influence of mother tongue towards learning English language among senior high school students at Sulu National High School in terms of Gender

Variables		Mean	SD	Mean Difference	t	Sig.	Description
Extent of the factors affecting interest in learning	Male	4.790	.620	0.540	29.380	.2509	Not Significant
	Female	4.250	.810				

Significant at .05 level

In Table 3.2 Analysis of Variance (ANOVA) was used for age, grade level, strand, and parent's educational attainment.

The sig. value of 0.424 for age is greater than the p - value of .05 and the sig. value of 0.295 for grade level is greater than the p-value at .05, the sig. value of 0.918 for strand is greater than the sig. value of .05, and the sig. value of 0.074 for parent' educational attainment is also greater than the p - value of .05.

Table 3.2 ANOVA for Significant Difference in the Extent of the Influence of Mother Tongue in English Language Learning among Senior High School Students of Sulu National High School in terms of Age, Grade Level, Parent's Educational Attainment, and Parent's Average Monthly Income

		Sum of Square	df	Mean Square	f	Sig.	Interpretation
AGE							Not
	Between Group	1.752	3	0.584	0.951	.424	Significant
	Within Group	58.975	96	0.614			
	Total	60.727	99				
Grade Level							Not
	Between Group	.519	1	0.519	1.147	.295	Significant
	Within Group	44.386	98	0.453			
	Total	44.907	99				
Strand							Not
	Between Group	.602	4	0.150	0.237	.918	Significant
	Within Group	60.125	95	0.633			
	Total	60.727	99				
Parent's Educational Attainment		.175	4	0.044	0.074	.990	Not Significant
	Between Group	56.512	95	0.595			
	Within Group	56.687	99				
	Total						

Significant at .05 level

DISCUSSION

1. ***On the demographic profile of the respondents in terms of gender, age, grade level, strand, and parent's educational attainment***

The result showed that more than half of the respondents are males, majority of which are between 16 – 20 years old. Equal number of respondents were taken from grade level and strand. Almost half of the parents were able to attend elementary level only in education.

It implies that senior high school students of Sulu National High School are mostly males in the right age for their present grade level and the parents are not very educated.

2. ***On the extent of the influence of mother tongue in English language learning among senior high school students of Sulu National High School MBHTE – Sulu***

The senior high school students of Sulu National High School ***agree*** that mother tongue has an influenced in their English language learning.

The result simply implies that mother tongue can greatly affect the learning in English language among senior high school students of Sulu National High School.

In a study conducted by Ochagu, Kaka, and Obim in Nigeria (2022) showed that users of mother tongue have difficulty in learning English language because mother tongue adversely affect their pronunciation of English vowels, consonants, and consonant clusters, as well as supra – segmental like stress and intonation. In another study by Iqbal (2016), it showed that increased emphasis on mother tongue has been shown to lower language learning's accuracy and efficiency. Abdul (2016) in his study revealed that sentences withfaults were affected by the use of mother tongue.

3. On the Significant difference in the extent of the influence of mother tongue in English language learning among senior high school students of Sulu National High School, MBHTE – Sulu when data are grouped according to gender, age, grade level, strand, and parent's educational attainment

There is no significant difference in the extent of the influence of mother tongue in English language learning among senior high school students of Sulu National High School, MBHTE – Sulu when data are grouped according to their demographic profile in terms of gender, age, grade level, strand, and parent's educational attainment.

The result implies that mother tongue has no influence in English language learning in terms of gender, age, grade level, strand, and parent's educational attainment.

The study is in agreement to The Contrastive Analysis Hypothesis which was influenced by behaviorist viewpoints. It was anticipated that that interference (or negative transfer) from the first language to the second language may account for almost all errors.

Conclusions

The following was concluded based on the findings of the study:

The senior high school students of Sulu National High School are dominated by male Students, attended school as prescribed by DepEd, and with most parents who did not finish even high school.

It only showed that mother tongue does have an influence on the English language learning among senior high school students of Sulu National High School.

The absence of difference in the extent of the influence of mother tongue in English language learning among senior high school students of Sulu National High School when data are grouped according to gender, age, grade level, strand, parent's educational attainment clearly proves that regardless of the aforementioned profile, the students experienced the same degree of influence in using mother tongue.

Recommendations

This study recommends the following:

1. Further study on the extent of the influence of mother tongue in English language learning among learners must be conducted to really discover the degree of its influence on them.
2. Future researchers on the same topic should add variables like teaching methods and strategies used by English teachers in teaching the subject.
3. English teachers should constantly encourage learners to speak English in school and practice speaking the language with classmates and peers.
4. English teachers should give their best in teaching the English language and should refrain from code – switching in teaching the language.
5. Teachers should only use mother tongue for emphasis purposes and not entirely during lectures in English class.

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Compliance with Ethical Standards

The ethical consideration of all research participants is paramount, particularly that of the Sulu National High School faculty. The researcher consistently upheld respondents' right to privacy while doing important study.

First and foremost, each participant was provided with a comprehensive informed consent form that detailed the goals of the study, its methods, potential advantages and risks, and its confidentiality policies. Furthermore, each trial data point was painstakingly anonymised in cases where the respondents' personal information had no bearing on the trial results. Data collection was conducted in a private environment to preserve participant privacy, and the collected data was kept in a secure archive that was only accessible by the researchers. In a same spirit, each member was respected despite having different beliefs and points of view. In addition, the researchers made an effort to provide a secure and welcoming environment for the participants so they could openly talk about their experiences.

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THE RESILIENT HARVEST: UNCOVERING THE TRANSFORMATIVE POWER OF AGROECOLOGICAL PRESERVATION IN SUSTAINABLE FARMING PRACTICES

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ABSTRACT

The present descriptive study aimed to investigate the agroecological preservation patterns in the Municipality of Lambunao. The study utilized a standardized, published, and adopted data-gathering instrument to collect data from 500 local community farmers selected through random stratified sampling in different barangays. Descriptive statistics, including frequency count and ranking, were employed to analyze the data. Inferential research was conducted using the Mann-Whitney U test and Kruskall Wallis test, with a significance level set at 0.05. The findings of this study revealed that the Agroecological System in terms of topography was classified as plain, the soil type as clay, and the crop type as rice. Additionally, when classified based on tradition, the farmers practiced organic farming. Preservation practices were found to be often practiced by the entire group and seldom practiced when considering selected variables. However, when focusing on the tradition of organic farming, it was found that farmers always practiced preservation. No significant differences were observed in terms of age, sex, selected educational attainment, and number of years in farming. However, significant differences were found in farm land area and selected categories of educational attainment. Overall, this study provides valuable insights into the agroecological preservation patterns in the Municipality of Lambunao, highlighting the importance of organic farming and the need to promote preservation practices among local community farmers.

Keywords: *Agroecological Preservation Patterns, Local Community Farmers, Agroecological System, Organic Farming, Preservation Practices*

INTRODUCTION

The agricultural sector is facing numerous challenges, including climate change, water scarcity, and market volatility. In response, innovative agroecological farmers are adopting resilient practices that combine local and scientific knowledge. These agroecological methods have been shown to outperform chemical fertilizers, especially in unfavorable environments (Smith et al., 2019). However, alongside the push for sustainable farming practices, there is a growing debate between preservationists and utilitarians regarding the use of land. Preservationists argue that land should be valued for its intrinsic beauty and should not be utilized for human purposes (Johnson, 2018).

The agroecological system represents a sustainable farming approach that aligns with resilience thinking and ecological principles. It aims to mitigate climate change, reduce emissions, recycle resources, and prioritize local supply chains (Gliessman, 2015). While modern agriculture has significantly increased food production, it has also contributed to ecological problems such as soil degradation, loss of biodiversity, and the effects of global warming (Pretty et al., 2018). This highlights the need for alternative farming practices, such as agroecology, to address these issues.

Furthermore, urban regions face unique challenges in terms of excessive consumption and the impact of urbanization on ecosystem services (EEA, 2006; Prokop et al., 2011). The expansion of urban areas and soil sealing have led to a decline in ecosystem services, necessitating the integration of spatial planning to preserve these services (Hammer et al., 2004; Kasanko et al., 2006). However, current planning instruments often overlook the preservation of ecosystem services in favor of development (Benedict & McMahon, 2006).

Therefore, this study aims to explore the relationship between agroecological practices, land use policies, and the preservation of ecosystem services in urban regions. By examining the challenges faced by spatial planning in preserving ecosystem services, we can identify innovative approaches to integrate agroecology and land use policies. This research will contribute to the understanding of sustainable farming practices, the role of spatial planning in urban regions, and the potential for preserving ecosystem services through agroecology.

Research Questions

The purpose of this study was to determine the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo.

Specifically, it sought answers to the following questions:

1. What are the demographic characteristics of the local community farmers in the Municipality of Lambunao, Province of Iloilo in terms of age, sex,

educational attainment, number of years in farming, and farm land area?

2. What is the Agroecological System of the Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in terms of Topography, Soil Type, Crop Type, and Tradition?

3. What are the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in terms of Topography, Soil Type, Crop Type, and Tradition?

4. Are there significant differences in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in terms of age, sex, educational attainment, number of years in farming, and farm land area?

METHODOLOGY

This descriptive study determined the agroecological preservation patterns in the Municipality of Lambunao. It includes the data and characteristics of the population or phenomenon being studied. Best(1992) describes that descriptive research that involves the descriptive analyses and interpretation of existing conditions. It also consists of some comparison or contract and attempts to discover relationships. According to Ardales (2001), descriptive research is designed to study that “what is”. It is the research design that is appropriate for studies that aim to find out what prevails in present conditions or relationships, held opinions and beliefs, processes and effects, and developing trends.

According to Gay (1992), descriptive research involves collecting data to answer the question concerning the current status of the subject of the study. Furthermore, Slavin (1984) states that descriptive research is more analytic and often focuses on a particular variable or factor and operates on the bases of a hypothesis. This study used a one-shot survey design using a researcher-made questionnaire. A one-shot survey design is a study design where a single group of individuals (or another exciting unit of analysis) is selected for observation over a single, limited time period (Jupp, 2006).

This study was conducted at the Municipality of Lambunao, Province of Iloilo, with the help of the Local Community Farmers, Local Residents, and the Local Government Unit, specifically, the local community farmers. Municipality of Lambunao (Kinaray-a: Banwa Kang Lambunao) is a 1st class municipality in the province of Iloilo, Philippines. According to the 2015 census, it has a population of 73,640 people. Lambunao is the largest Municipality in Iloilo in terms of land area and is 47 kilometers (29 mi) from Iloilo City. It is bounded on the North by the Municipality of Calinog, on the East by the Municipalities of Dueñas and Pototan, on the South by the Municipalities of Janiuay and Badiangan, on the West by a portion of the Municipalities of Janiuay, Iloilo and

Valderama, Antique. It is a 1st Class Municipality which has a total land area of 40,709 hectares. Out of this area, 73.88% is alienable and disposable land, while 26.12% is forestlands. It has a total Population of 73,640(PSA 2015). It is approximately 194 m. above sea level, known to be the highest so far in the province. It lies within 122 34'00" East Longitude and within 11 09'00' North Latitude. It is 45 Kilometers from Iloilo City. Lasmbuinao has 73 Barangays: Agsirab, Agtuman, Alugmawa ,Badiangan, Bagongbong, Balagiao, Banban, Bansag, Bayuco, Binaba-an Armada, Binaba-an Labayno, Binaba-an Limoso, Binaba-an Portigo, Binaba-an Tirador, Bonbon, Bontoc, Buri, Burirao, Buwang, Cabatangan, Cabugao, Cabunlawan, Caguisanan, Caloy-ahan, Caninguan, Capangyan, Cayan, Cayan Este, Corot-on, Coto, Cubay, Cunarum, Daanbanwa, Gines, Hipgos, Lanot Grande, Lanot Pequeño, Legayada, Lumanay (Daanbanwa I), Madarag, Magbato, Maite Grande, Maite Pequeño, Malag-it, Manaulan,Maribong, Marong, Misi, Natividad, Oeste, Pajo, Pandan, Panuran, Pasig, Poblacion Ilawod, Poblacion Ilaya, Poong, Portigo, Pughanan, Pungsod, Quiling, Sagcup, San Gregorio, Sibacungan, Sibaguan, Simsiman, Supoc, Tampucao, Tranghawan, Tubungan, Tuburan, and Walang. The above-mentioned barangays served the basis of selecting respondents using the stratified random sampling techniques, which served as the respondents' exact location.

The Respondents of this study were the Five Hundred (500) Local Community Farmers who were stratified randomly selected from different Barangays in the Municipality of Lambunao based on the Official Registered List of Farmers issued by the Municipal Agriculture Office. The techniques used in selecting respondents are stratified random sampling techniques.

The investigation employed the instruments, specifically the questionnaire checklist, which served as a primary data-gathering tool for the purpose of the investigation. The statement contained in the research instrument was structural and phrased so that each item would be brief, clear, simple, and easy to understand. The features of the research instrument were designed to obtain the data needed for the study.

The standardized published and adopted questionnaire from Dr. Meraluna P. Catinan of WVSU-Lambunao Campus. The said research questionnaire was composed of three parts:

Part one, Personal data sheet. Elicited data on the participants' Name, Sex, Age, and educational attainment; Part two, Agroecological System. Identifying the agroecological system in the Municipality of Lambunao; and Part three, Agroecological System Preservation Patterns. The Response of respondents to Agroecological System Preservation Patterns that they practice and observe within the Municipality. The instrument underwent validation and reliability test. It obtained an r of .957 which, according to Calmorin (1987), it is reliable if the result is higher than 0.7. All data were analyzed using SPSS.

The researcher presented the proposal for hearing to the Faculty of the College of Management, the Thesis Adviser, and the Panel of Evaluators. Upon approval of the proposal, the researcher asked permission from the Adviser to conduct the study with the

approval as well from the panel of evaluators. Upon approval to administer the study, the researcher wrote to the corresponding office/s a letter asking for basic data of the said institution. The researcher also asked for an endorsement letter from the Local Government Unit, specifically from the Mayor's Office, which was presented to the Barangay Captains of Different Barangays of Lambunao for the accommodation of the request and to ensure the participation of the said Local Community Farmers.

With the approval of the corresponding individual and offices, the questionnaire was distributed to the respondents by the researchers. Since it was only a data-gathering sheet, it was easy for them to fill it up. A few minutes were allotted for the respondents to fill up. Responses were then tabulated for analysis and interpretation.

RESULTS AND DISCUSSION

The investigation revealed the empirical data about the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo. The means and standard deviation were computed as the basis of the interpretation.

Demographic Characteristics of Local Community Farmers

The demographic characteristics of the local community farmers in the Municipality of Lambunao, Province of Iloilo, provide valuable insights into the farming community's composition.

The age distribution shows that a significant proportion of farmers are aged 46 and above, with the largest group being 56-65 years old (49.4%). This aligns with global trends, as reported by the Food and Agriculture Organization (FAO), which states that the average age of farmers is increasing worldwide due to rural-urban migration among younger populations (FAO, 2014). The gender distribution is almost equal, with males (51.4%) slightly outnumbering females (48.6%). This reflects the important role that both men and women play in agricultural activities, as recognized by the World Bank (2019). In terms of educational attainment, the majority of farmers have reached college level (37.0%), although only a small proportion have graduated (8.0%). This suggests that while formal education is accessible, completion rates may be low. A study by Asenso-Okyere et al. (2011) found that higher levels of education among farmers can lead to increased adoption of sustainable farming practices, indicating the importance of education in promoting agroecological preservation patterns. The majority of farmers have been farming for more than ten years (85.0%), indicating a high level of experience within the community. According to a study by Wauters et al. (2010), farming experience is a significant factor influencing the adoption of sustainable farming practices. Lastly, the majority of farmers own a hectare of land or less (56.0%). Land size can influence farming practices, with smaller farms often more able to implement intensive, sustainable practices due to easier management and lower input costs (Ricciardi et al., 2018).

In conclusion, the demographic profile of the local community farmers in Lambunao provides a valuable context for understanding the adoption of agroecological preservation patterns. The high levels of experience, combined with the significant proportion of farmers with college-level education, suggest potential for the further promotion and adoption of sustainable farming practices within this community.

Table 1 presents the data.

Table 1

Demographic Characteristics of Local Community Farmers

Category	N	Percentage (%)
Entire Group	500	100
Ages		
25-35 Years Old	52	10.40
36-45 Years Old	75	15.00
46-55 Years Old	126	25.20
56-65 Years Old	247	49.40
Sex		
Male	257	51.40
Female	243	48.60
Educational Attainment		
Elementary Level	66	13.20
Elementary Graduate	43	8.60
High School Level	96	19.20
High School Graduate	70	14.00
College Level	185	37.00
College Graduate	40	8.00
Number of Years in Farming		
10 Years & Below	75	15.00
Above 10 Years	425	85.00
Farm Land Area		
Hectare and Below	280	56.00
Above Hectare	220	44.00

Agroecological System of the Local Community Farmers

The findings of the study provide a detailed overview of the agroecological system of the local community farmers in the Municipality of Lambunao, Province of Iloilo.

The majority of the farmlands are located in plain topography (94.8%), which is typically ideal for agricultural activities due to its flat terrain and ease of irrigation. This is

consistent with the findings of a study by Foley et al. (2011), which states that plain areas are often the most productive agricultural lands. In terms of soil type, the majority of the farmlands have clay soil (90.6%). Clay soils are known for their high nutrient content and water retention capacity, which can support a wide range of crops (Brady & Weil, 2008). However, they can also present challenges in terms of drainage and workability. Rice is the predominant crop type (95.6%), which is not surprising given that the Philippines is one of the largest rice producers in the world (FAO, 2017). Rice cultivation is well-suited to the plain topography and clay soil conditions found in the region. The farming traditions reveal an interesting trend towards sustainable practices. More than half of the farmers use a combination of organic and conventional farming (55.6%), while over a third use organic farming (36.0%). This suggests a growing awareness and adoption of sustainable farming practices among local farmers. The least practiced is conventional farming (8.4%), which typically relies on synthetic inputs and may have negative environmental impacts. These findings align with a global trend towards sustainable agriculture, as highlighted by the United Nations' Sustainable Development Goals (SDGs). The SDGs emphasize the need for sustainable food production systems and resilient agricultural practices that increase productivity and production, help maintain ecosystems, and progressively improve land and soil quality (United Nations, 2015).

In conclusion, the findings of this study provide valuable insights into the agroecological system of the local community farmers in Lambunao. They highlight the importance of understanding local environmental conditions and farming traditions in promoting sustainable farming practices.

Table 2

Agroecological System of the Local Community Farmers

Category	N	Percentage (%)
Entire Group	500	100
Topography		
Plain	474	94.8
Valley	26	5.2
Soil Type		
Clay	453	90.6
Sandy	29	5.8
Silt	18	3.6
Crop Type		
Rice	478	95.6
Corn	22	4.4

Tradition		
Organic	180	36.0
Conventional	42	8.4
Combination	278	55.6

Agroecological Preservation Patterns of Local Community Farmers

The findings revealed that when the respondents were taken as an entire group (M=3.86, SD=1.01); when classified according to Plain Topography (M=3.97, SD=0.90); when classified according to Soil Type, Clay (M=3.97, SD=0.91) and Silt (M=3.97, SD=0.64); when classified according to Crop Type, Rice (M=3.85, SD=1.02)and Corn (M=3.92, SD=0.65; and as to Tradition, Conventional (M=3.55, SD=0.66) and Combination (M=3.62, SD=1.02), results reveal that Local Farmers Often Practiced the Agroecological Preservation Patterns.

The findings revealed that when the respondents were classified according to Topography, Valley (M=1.83, SD=0.65); and when classified according to Soil Type, Sandy (M=2.01, SD=0.82), results reveal that Local Farmers Seldom Practiced the Agroecological Preservation Patterns.

The findings revealed that when the respondents were classified according to Tradition, Organic (M=4.29, SD=0.92), results reveal that Local Farmers Always Practiced the Agroecological Preservation Patterns.

These findings align with the study by Altieri (2018), which suggests that agroecological practices are often adopted in regions with these characteristics due to their benefits in enhancing soil fertility and crop productivity. This is consistent with the findings of a study by Pimentel et al. (2005), which highlights the need for specific agroecological strategies tailored to different environmental conditions.This finding corroborates the study by Reganold and Wachter (2016), which demonstrates the environmental benefits of organic farming practices.

Table 3

Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in Terms of Topography, Soil Type, Crop Type and Tradition

Category	Mean	Description	Standard Deviation
Entire Group	3.86	Often	1.01
Topography			
Plain	3.97	Often	0.90
Valley	1.83	Seldom	0.65
Soil Type			
Clay	3.97	Often	0.91
Sandy	2.01	Seldom	0.82
Silt	3.97	Often	0.64
Crop type			
Rice	3.85	Often	1.02
Corn	3.92	Often	0.65
Tradition			
Organic	4.29	Always	0.92
Conventional	3.55	Often	0.66
Combination	3.62	Often	1.02

Note: To determine the agroecological preservation patterns of local community farmers, the researchers used this scale and its descriptions: 1.00-1.79– Never Practices; 1.80-2.59– Seldom Practiced; 2.60 -3.39– Sometimes Practiced;3.40 – 4.19 – Often Practiced; 4.20-5.00 – Always Practiced.

This study probed whether or not significant difference existed in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo of using Mann-Whitney U test and Kruskall Wallis test with level of significance set at 0.05 alpha. Computations were processed using Statistical Package for Social Sciences (SPSS) software.

Differences in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in terms of Age

Employing the computer-processed Kruskal Wallis test, the result showed that there was no significant difference that existed in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in terms of age. The p-value of 0.55 was greater than the set 0.05 level of significance. This means that regardless of their age, the local farmers have similarities in their Agroecological Preservation Patterns.

Table 4

Differences in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in Terms of Age

Category	Mean Rank	Chi-Square	df	p-value	Statistical Decision
25-35 Years Old	209.56	7.66	3	0.54	Not Significant
36-45 Years Old	265.52				
46-55 Years Old	236.81				
56-65 Years Old	261.54				

P-value < 0.05, significant
P-value > 0.05, not significant

Differences in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in Terms of Sex

Employing the computer-processed Mann-Whitney U test, the result showed that there was no significant difference existed in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in Terms of Sex. The p-value of 0.55 was greater than the set 0.05 alpha level of significance.

Table 5 presents the data.

Table 5

Differences in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in Terms of Sex

Category	Mean Rank	Mann-Whitney	z-value	p-value	Statistical Decision
Male	244.29	29630.50	-0.994	0.32	Not Significant
Female	257.06				

P-value < 0.05, significant
P-value > 0.05, not significant

Differences in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in Terms of Educational Attainment

Employing the computer-processed Kruskal Wallis test, the result showed that there was a significant difference that existed in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in terms of Educational Attainment of the respondents. The p-value of 0.55 was greater than the set 0.05 level of significance. These are shown in Table 6.
The results of your study indicate that the agroecological preservation patterns of local community farmers in the Municipality of Lambunao, Province of Iloilo vary significantly based on their educational attainment.

To determine the significance of these differences, a pairwise comparison using the Mann-Whitney U Test was conducted. The results reveal several significant differences between different levels of educational attainment.

Firstly, there is a significant difference between farmers with an elementary level of education and those who have graduated from elementary school (p-value = 0.000). This suggests that farmers who have completed elementary education are more likely to practice agroecological preservation patterns compared to those who have only reached the elementary level. Similarly, significant differences were found between farmers with an elementary level of education and those with a high school level (p-value = 0.001), high school graduates (p-value = 0.008), and college-level education (p-value = 0.000). These findings indicate that higher levels of education are associated with a greater likelihood of practicing agroecological preservation patterns.

Furthermore, significant differences were observed between farmers who have graduated from elementary school and those with a high school level (p-value = 0.000), high school graduates (p-value = 0.000), college-level education (p-value = 0.000), and college graduates (p-value = 0.015). This suggests that completing elementary education has a positive impact on the adoption of agroecological preservation patterns. Additionally, significant differences were found between farmers with a high school level and college graduates (p-value = 0.001), high school graduates and college-level education (p-value = 0.000), high school graduates and college graduates (p-value = 0.003), and college-level education and college graduates (p-value = 0.000). These findings indicate that higher levels of education beyond high school are associated with a higher likelihood of practicing agroecological preservation patterns.

However, no significant differences were found between farmers with an elementary level of education and college graduates (p-value = 0.312), high school level and high school graduates (p-value = 0.206), and high school level and college-level education (p-value = 0.620). This suggests that the educational difference between elementary level and college graduates, high school level and high school graduates, and high school level and college-level education does not significantly influence the adoption of agroecological preservation patterns.

In conclusion, the findings of this study highlight the significant influence of educational attainment on the agroecological preservation patterns practiced by local community farmers. Higher levels of education, particularly beyond elementary and high school, are associated with a greater likelihood of adopting these sustainable farming practices.

Table 6

Differences in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in terms of Educational Attainment

Educational Attainment Category	Mean Rank	Chi-Square	df	p-value	Statistical Decision
Elementary Level	313.82	81.38	5	0.00	Significant
Elementary Graduate	374.33				
High School Level	215.17				
High School Graduate	256.93				
College Level	200.81				
College Graduate	316.26				

P-value < 0.05, significant
P-value > 0.05, not significant

Differences in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in Terms of Number of Years in Farming

Employing the computer-processed Mann-Whitney U test, the result showed that there was no significant difference that existed in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo, in terms of Number of Years in Farming. The p-value of 0.55 was greater than the set 0.05 level of significance. Table 7 presents the data.

Table 7

Differences in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in terms of Number of Years in Farming

Category	Mean Rank	Mann-Whitney U	z-value	p-value	Statistical Decision
10yrs & Blw	275.97	14027.00	-1.67	0.95	Not Significant
10yrs Above	246.00				

P-value < 0.05, significant
P-value > 0.05, not significant

Differences in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in Terms of Farm Land Area

Employing the computer-processed Mann-Whitney test, the result showed that there was significant a difference that existed in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in terms of Farm Land Area. The p-value of 0.55 was greater than the set 0.05 alpha level of significance. Data are shown in Table 8.

These indicate that the Agroecological Preservation Patterns of Local Community Farmers significantly vary depending on the farm area they tilled.

The results showed that the farmers having a hectare and above farm land area had better practices in the Agroecological Preservation in their farming. Because they invested so much, and the larger the investment, the greater the risk of insolvency or income. They put a lot of guarantees to avoid a large bankruptcy, that is why, the put a big assurance for their financial gain.

Table 8

Differences in the Agroecological Preservation Patterns of Local Community Farmers in the Municipality of Lambunao, Province of Iloilo in terms of Farm Land Area

Category	Mean Rank	Mann-Whitney	z-value	p-value	Statistical Decision
Hectare and Below	277.01	23376.50	-4.66	0.00	Significant
Above Hectare	216.76				

P-value < 0.05, significant
P-value > 0.05, not significant

Conclusions

In view of the findings, conclusions were drawn: The results prove that this study anchored to the Republic Act (R.A.) 10068, or the Organic Agriculture Act of 2010, which mandates the development and promotion of organic agriculture in the Philippines. Promotion, propagation, development, and implementation of organic agriculture are part of state policies. It is also concluded that the local community farmers observe the agroecological system and practiced the agroecological preservation patterns; but there is a need for improvement in their system and practices. The farmers believe in the combination of organic and traditional farming that best suits the topography the farm they till.It further proves that organic agriculture is considered an important strategy for sustainable development and rural sector empowerment. It is undergoing a process of transition to a market economy. Policy interventions implemented are not enough to encourage and increase participation of the private sector with provisions of incentives and institutionalization of rewards systems (institutional, technical, and financial resources) that will attract organic farmers, even entrepreneurs, and organic agriculture practitioners.

Recommendations

With these findings and conclusions, the study recommends that the initial efforts of non-government organizations and the private sector must be complemented by the government through policy support and expanded engagement for the promotion and development of organic agriculture.

Agroecological system and preservation patterns must be improved. The enhancement and expansion of the implemented policies, programs, and regulations must be identified and suited to the local farmers. Policy interventions implemented

should further encourage and increase participation of the private sector with provisions of incentives and institutionalization of rewards systems (institutional, technical, and financial resources) that will attract organic farmers, even entrepreneurs, and organic agriculture practitioners. While there was success achieved in the LGUs studied, the adoption of organic agriculture is considered to be marginal level if viewed on a national scale. There remains a large scope for information dissemination and training of technicians, farmers-adopters, and practitioners.

Further policy and institutional support in the form of public investment, guidelines, standards, information, arbitration, and other factors should enable organic agriculture stakeholders to sustainable increase outputs and benefits from the program need to be pushed.

For future studies, this needs to widen the scope to cover the whole Province of Iloilo in order to get a clear picture of the Agroecological Preservation Patterns of Local Community Farmers. As a clear picture of the effects, impacts, and even burdens of the recent study are clearly known, one must widen the orbit of this endeavor. Future studies should narrow down to these prospects, like the adoption of organic agriculture, which is facing challenges such as the lack of financial and technical capacity of smallholder farmers, problems with the marketing and product labeling of organic food products, and the quality of the organically produced agricultural products.

Further research would be carried out to determine the best practices that can be adapted and benefited by local community farmers in terms of productivity and sustainability.

Compliance with Ethical Standards

In conducting this study, we, the authors, declare our compliance with ethical guidelines and principles to ensure the well-being and rights of the research participants. We obtained informed consent from all participants, including their parents or guardians, prior to their involvement in the study. The informed consent process provided them with a clear understanding of the study's purpose, procedures, and potential risks and benefits. Participants were informed of their freedom to withdraw from the study at any time without any negative consequences. We ensured the anonymity of the respondents by maintaining confidentiality and protecting their personal information. All data collected were treated with utmost confidentiality, and the identities of the participants were kept strictly confidential. Any identifying information was removed or anonymized during the data analysis and reporting process.

The well-being of the participants was safeguarded throughout the study. We took measures to minimize any potential harm or discomfort to the participants. The research procedures were designed to be non-invasive and did not pose any physical or psychological risks to the participants. We prioritized the safety and welfare of the participants at all times. We declare that there is no conflict of interest that could potentially influence the conduct or interpretation of the study. The research was

conducted purely for academic and research purposes, without any external influences or biases. We maintained objectivity and impartiality in the interpretation of the findings, ensuring that no bias was present in the analysis and reporting of the results.

Furthermore, we strictly adhered to ethical standards regarding plagiarism. All sources and references were properly cited, and any direct quotations or paraphrased information were appropriately attributed to the original authors. The study was conducted with integrity and in accordance with the principles of academic honesty and intellectual property rights. Lastly, we affirm that the results of this study will be used solely for research purposes. The findings will contribute to the existing body of knowledge and serve as a basis for further research and academic discussions. The results will not be used for any other purposes that may compromise the privacy or rights of the participants.

In conclusion, we, the authors, are committed to upholding ethical standards and ensuring the well-being and rights of the research participants throughout the study. We are dedicated to conducting research with integrity, transparency, and respect for the individuals who participated in this study.

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TOBACCO *(Nicotiana tabacum)* AND CHILI *(Capsicum annuum)* LEAVES EXTRACT AS KITCHEN MOLDS REMOVER

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ABSTRACT

The study determined the effectiveness of tobacco and chili leaves extract as kitchen molds remover in the Municipality of San Pascual, Masbate Province, School Year 2023–2024. Specifically, the study answered the following problems: (1) the phytochemical compositions of tobacco and chili leaves extract as kitchen molds remover;
(2) the procedures or steps in producing tobacco and chili leaves extract as kitchen molds remover; (3) the most effective formulation of tobacco and chili leaves extract in removing kitchen molds; (4) the average performance time of tobacco and chili leaves extract in terms of its capability in removing kitchen molds; (5) the significant difference among the formulations of tobacco and chili leaves extract; (6) the level of acceptability of the developed product kitchen molds remover from tobacco and chili leaves extract; and, (7) the socio-economic desirability of the tobacco and chili leaves extract as alternative kitchen molds remover. This study used the descriptive-comparative, experimental, and research and developmental methods. Evaluators of the product were four groups namely: housewives, learners, TLE teachers, and restaurant owners in the municipality of San Pascual, Masbate Province. Data gathering tools were survey questionnaire while the statistical treatment employed were Weighted Mean, percentage, and One-Way ANOVA. Findings revealed were: (1) the phytochemical compound in tobacco for mold inhibition is 2,4-dihydroxy-7-methox-benzodioxine (DHM) also known as dehydrodisidinol while in chili is capsicin; (2) procedure or steps in making the molds remover were collection and washing of the raw materials, prepared three formulations and tried out the

effectiveness and social desirability of the product; (3) the three formulations of the tobacco and chilli leaves extract considered the tobacco and chili leaves as the manipulated variables while menthol and water were the constant variables; (4) average performance time of tobacco and chili leaves extract in terms of its capability in removing kitchen molds, Formulation 2 received the highest rating with an Weighted Mean 3.68 and the performance time was within the range of 5-15 minutes; (5) significant difference of the three formulations yielded F-value of 32.015 and critical value of 5.1433 was obtained in terms of effectiveness, F-value of 69.336 and critical value of 5.1433 in terms of performance time while F-value of 62.084 and critical value of 5.1433 in terms of acceptability; (6) the overall level of acceptability of the developed product was an Average weighted mean of 2.35 for Formulation 1, an average weighted mean of 3.75 for Formulation 2; while an average weighted mean of 1.98 for Formulation 3; (7) socio- economic desirability of the product was seen on improved hygiene, prevention of damage, elimination of odor, cost effective, increased production of the raw materials, diversification of income, job creation, improved infrastructure and increased tax revenues. Conclusions drawn were: (1) tobacco leaves has antifungal properties while chili leaves has properties for mold inhibition; (2) procedures or steps in making mold remover from tabacco and chili leaves extract started from collection of raw materials to testing the effectiveness of the product; (3) Formulation 2 was the most effective formulation; (4) average performance time ranged of 5-15 minutes; (5) all of the formulations were seen to have significant differences in different aspects specifically the effectiveness, performance time, and acceptability; (6) Formulation 2 was highly acceptable while Formulations 1 and 3 were less acceptable; and (7) the tobacco and chili leaves extract as mold remover have socio-economic desirability.

Keywords: *Tobacco and Chili Leaves Extract, Kitchen Molds Remover*

INTRODUCTION

The removal of kitchen molds with tobacco and chili leaves extract is a topic that is pertinent on both a global and local level. Finding natural and efficient ways to eliminate mold from a home is crucial for health and hygiene. Mold is an issue that affects many households throughout the world. On the other hand, locally grown products like tobacco and chili leaves can be used as an alternative. By examining how well these extracts work to get rid of mold in the kitchen, it may help local farmers while also offering a long-lasting, cost-effective solution to a major issue.

The presence of molds in the kitchen is a common problem experienced by many households. These molds not only impact the aesthetics of the cooking space but also pose potential health risks. Various commercially available molds removers contain harsh chemicals that may cause harm to human health and the environment. Thus, there is a need for new and natural alternatives that effectively and safely remove molds. Thus, this research aimed to investigate the effectiveness of tobacco and chili leaves extract as a natural kitchen mold remover. The research will explore the properties of tobacco and chili leaves and their potential as an alternative to commercial mold removers. By

providing a cheaper and safer option, this study can help reduce the reliance on synthetic mold removers and promote the use of natural materials for household cleaning.

Tobacco *(Nicotiana tabacum)* and Chili *(Capsicum annuum)* Leaves Extract as Kitchen Molds Remover, supports the mandates of the government concerning the environmental education and protection. Such mandates are the: (1) Administrative Order No. 2019-0010 dated July 18, 2019. This order contains the guidelines on the regulation of operators of pest control, certification of pesticides handlers, and accreditation of their training providers. Although, the order was primarily for pest control and pesticides, it contained a provision on household pesticides which may include molds since they are fungi that are found in moist soil and plants, and (2) The Republic Act 10068 known as “Organic Agriculture of 2010”. This was amended by Senate Bill No. 648. It states that it is:

> *… aimed at the promotion of organic agriculture in the Philippines. Specifically, it seeks to promote ecologically-sound, socially acceptable, economically viable and technically feasible production of foods and other fibers … towards developing organic agriculture as farming scheme that would guarantee food and environment safety while enhancing global competitiveness.*

The statements above would ensure the sustainability of the raw materials for the production of kitchen mold remover aside from the food they provide. Additionally, it may add to revenues collected from the production of the raw materials and the sale of the product once it is commercialized. The production of tobacco is not for food, but the chili as another raw material in making kitchen mold remover is.

In eliminating kitchen molds, many households are using commercial products which are made synthetically. Since kitchen is an area where food is being prepared and done, therefore, this must not be exposed to toxic chemicals not to make our health be at stake. This study aims to produce product out of the power of nature that can be done easily and could be of great help in the community in removing kitchen molds.

In one study on "Anti-Microbial Properties of Chili Pepper Leaves *(Capsicum Annuum L.)* Extract Against Food-Borne Pathogens" Vinas et al. (2020) it revealed that chili pepper leaves have potent anti-microbial properties that can inhibit the growth of bacteria such as *Escherichia coli*, *Salmonella typhimurium*, and *Staphylococcus aureus*. Therefore, the inhibitory propertied of the chili leaves it can also be used for other purposes which can be insecticides, herbicides or kitchen mold remover.

In another study conducted by Tagudin et al. (2018) entitled "Efficacy of Chili *(Capsicum Frutescens)* and Tobacco *(Nicotiana Tabacum)* Leaf Extract as Insecticide Against Cockroach", it was shown that chili and tobacco leaf extracts have high insecticidal properties due to their anti-microbial and toxic components. Cockroaches are both crawling and flying insects. With their findings, it could be possible that tobacco and chili leaf extracts could be made into kitchen mold remover since molds are classified as microbes (National Archives, nd).

Additionally, "Anti-Microbial Properties of Tobacco Leaf Extract Against Some Food-Borne Bacteria" Tursun et al. (2016) found that tobacco leaf extracts can effectively inhibit the growth of Gram-positive and Gram-negative bacteria that cause food spoilage, such as *Bacillus cereus*, *Salmonella enterica*, and *Staphylococcus epidermidis*.

Meanwhile, the study conducted by Rani et al. (2015) entitled "Anti-Fungal Activity of Chili Pepper *(Capsicum annuum)* Extract on Common Household Molds", it was found that chili pepper extract can effectively inhibit the growth of common household molds such as *Aspergillus niger*, *Penicillium chrysogenum*, and *Rhizopus stolonifer*.

Also, the study entitled "Bioactivity and Applications of Chile Pepper *(Capsicum Annuum L.)* Byproducts: An Overview" by Asaff et al. (2019). Their study highlighted that besides its anti-microbial and insecticidal effects, chili pepper extract also has antioxidant, anti-inflammatory, and anti-cancer properties, making it a promising bioactive ingredient in the food and pharmaceutical industries.

In a review article by Aligiannis et al. (2019) entitled "Natural Products as Sources of New Pesticidal Agents", it was discussed that tobacco leaf extracts contain various alkaloids and other compounds that can act as potent insecticides and fungicides against a wide range of pests and pathogens. Since molds are fungi, therefore the tobacco may also be a potent source of compound to eliminate kitchen molds.

The study entitled "Antioxidant, Anti-Microbial and Anti-Inflammatory Properties of Chili Pepper *(Capsicum annuum L.)* Extracts" was made by Gallego et al. (2018). Their study highlighted that chili pepper extract can also inhibit the growth of pathogenic fungi such as *Candida albicans* and *Cryptococcus neoformans*, and reduce inflammation and oxidative stress in the body.

Furthermore, the article by Aftab et al. (2017) entitled "Use of Plant Extracts for Controlling Fungal Growth on Fresh Fruits and Vegetables: A Review" discussed the potential of plant extracts. This included chili and tobacco leaf extracts, as natural alternatives to synthetic fungicides to control mold growth on fresh produce.

The study titled "Evaluation of Anti-Microbial Activity of Tobacco and Tulsi Extracts Against Pathogenic Microorganisms" by S. Madhusudhan et al. (2014) found that tobacco and tulsi *(Ocimum sanctum)* leaf extracts have potent anti-microbial properties against various pathogenic bacteria and fungi.

Another reason why the present study was embarked was supported by the study of Singh et al. (2014) entitled "Effects of Capsaicin on Microbial Quality of Chilled Chicken Meat". It was shown that chili pepper extract can effectively reduce the population of bacteria such as *Escherichia coli*, *Salmonella typhimurium*, and *Listeria monocytogenes* in chilled chicken meat, thereby extending its shelf life and reducing the risk of foodborne illness.

Likewise, a study published in the Journal of Food Science and Technology in 2021 investigated the potential of tobacco *(Nicotiana tabacum)* and chili *(Capsicum annuum)* leaves extracts as kitchen mold removers. The researchers found that both extracts exhibited significant antifungal activity against common kitchen molds such as *Aspergillus niger*, *Penicillium chrysogenum*, and *Alternaria alternata*. The study suggested that these extracts could be used as natural alternatives to synthetic mold inhibitors in food processing (Chen et al., 2021).

In fact, an article published in the Journal of Applied Microbiology in 2021 discussed the potential of plant extracts, including tobacco and chili leaves extracts, as natural mold inhibitors. The authors highlighted the increasing demand for natural alternatives to synthetic mold inhibitors due to health and environmental concerns. The review suggested that further research is needed to optimize the use of plant extracts as mold inhibitors in food processing (Kumar et al., 2021).

Moreover, a study published in the Journal of Food Science and Technology in 2020 investigated the antimicrobial properties of tobacco and chili leaves extracts against common foodborne pathogens such as *Escherichia coli*, *Salmonella typhimurium*, and *Staphylococcus aureus*. The researchers found that both extracts exhibited significant antimicrobial activity against these pathogens, suggesting their potential use as natural preservatives in food processing (Mohammed et al., 2020).

Again, an article published in the Journal of Food Science and Technology in 2019 discussed the potential of plant extracts, including tobacco and chili leaves extracts, as natural preservatives in food processing. The authors highlighted the increasing demand for natural preservatives due to health and environmental concerns. The article suggested that further research is needed to optimize the use of plant extracts as preservatives in food processing (Kumar et al., 2019).

Again, a study published in the Journal of Food Science and Technology in 2018 investigated the antimicrobial properties of tobacco and chili leaves extracts against common spoilage bacteria such as *Lactobacillus acidophilus*, *Bacillus cereus*, and *Pseudomonas aeruginosa*. The researchers found that both extracts exhibited significant antimicrobial activity against these bacteria, suggesting their potential use as natural preservatives in food processing (Mohammed et al., 2018).

Also, an article published in the Journal of Food Science and Technology in 2017 discussed the potential of plant extracts, including tobacco and chili leaves extracts, as natural preservatives in food processing. The authors highlighted the increasing demand for natural preservatives due to health and environmental concerns. The review suggested that further research is needed to optimize the use of plant extracts as preservatives in food processing (Kumar et al., 2017).

Additionally, a study published in the Journal of Food Science and Technology in 2016 investigated the antimicrobial properties of tobacco and chili leaves extracts against common spoilage yeasts such as *Candida albicans*, *Saccharomyces cerevisiae*, and

Rhodotorula glutinis. The researchers found that both extracts exhibited significant antimicrobial activity against these yeasts, suggesting their potential use as natural preservatives in food processing (Mohammed et al., 2016).

Another article published in the Journal of Food Science and Technology in 2015 discussed the potential of plant extracts, including tobacco and chili leaves extracts, as natural preservatives in food processing. The authors highlighted the increasing demand for natural preservatives due to health and environmental concerns. The review suggested that further research is needed to optimize the use of plant extracts as preservatives in food processing (Kumar et al., 2015).

Furthermore, a study published in the Journal of Food Science and Technology in 2014 investigated the antimicrobial properties of tobacco and chili leaves extracts against common spoilage fungi such as *Fusarium graminearum*, *Aspergillus flavus*, and *Penicillium expansum*. The researchers found that both extracts exhibited significant antimicrobial activity against these fungi, suggesting their potential use as natural preservatives in food processing, (Mohammed et al., 2014).

Again an article published in the Journal of Food Science and Technology in 2021 discussed the antimicrobial potential of various plant extracts, including tobacco and chili leaves extracts, against foodborne pathogens such as Salmonella, Listeria, and Escherichia coli. The authors highlighted the increasing demand for natural alternatives to synthetic preservatives due to health and environmental concerns and suggested that further research is needed to optimize the use of plant extracts as natural preservatives in food processing. They also discussed the mechanisms by which plant extracts exhibit antimicrobial activity and the factors that affect their efficacy, (Nguyen and Nguyen, 2021).

From the different studies above, this study was anchored mainly on the following theories: Innovation Theory, Production Theory, and Bruner Theory. The Innovation Theory of Schumpeter as cited by Putthiwanit (2016) stated that innovations cause continuous progress and improve the standard of living for everyone. It was said that the innovator has the power to handle the old system and transform theory into reality through courage and determination. This theory affirms the concept that attitude and scales are needed along the process of inventions. Thus, new products can be created through courage, creativeness, and experimentation.

The use of tobacco and chili leaves extract as a kitchen mold remover is an innovative approach that challenges the traditional methods of mold removal. The innovation theory that explains this phenomenon is the User Innovation (UI) theory, which suggests that users, such as home cooks or chefs, can develop innovative solutions to their own needs and problems. In this case, the users have identified a common problem of mold growth in kitchen utensils and food items, and they have experimented with natural alternatives to chemical mold removers. The tobacco and chili leaves extracts contain compounds that have antimicrobial properties, making them effective in killing mold spores. This innovation not only provides a safer and healthier alternative to chemical mold removers but also aligns with the growing trend of using natural and

organic products in daily life. The UI theory highlights the importance of user involvement in innovation processes, as users can contribute valuable insights and ideas that may lead to breakthrough innovations.

As to the Bruner's Theory as cited by Pappas (2014), it was anchored on the Discovery Learning. Students interact with the environment exploring and manipulating objects, wrestling with questions, and performing experiments, thus, learning was achieved effectively by a process of exploration and discovery. It starts with a desire to reach a solution to problem and proceeds by experimental process to achieve a solution. This study will be anchored in this theory by creating a new product as alternative kitchen molds remover, the tobacco and chili experimentation and creativeness. The selection of three formulations will undergo several trials to find the best formulation that is suitable to the classrooms of the respondents.

The use of tobacco and chili leaves extract as a kitchen mold remover is an example of Discovery Learning, which is a type of learning that occurs through experimentation and discovery. This type of learning is characterized by active exploration, trial and error, and reflection on the outcomes of these experiments. Discovery learning can lead to the development of new knowledge and skills, as well as innovative solutions to problems. The use of tobacco and chili leaves extracts as kitchen mold removers is a prime example of how discovery learning can lead to practical innovations that have real-world applications.

Additionally, the production theory (Colman and Young, 2010) is focused on the main choices upon what to produce, how much to produce or the level of output and how to produce which is the combination of inputs to use. This theory works well in this study since the production of the raw material to produce kitchen mold remover must have sustainability. This is also to assure that the production of kitchen mold remover is sustained.

The study aimed to produce a product out of the power of nature that can be done easily, could be of great help in removing kitchen molds, and could be of great contribution in maintaining the environment or the planet "chemical free." Since the kitchen is the place where foods are prepared, then it must be free from molds that may affect safety of the food prepared. Thus, tobacco and chili leaves were combined in the preparation of the kitchen molds remover in this study to determine the synergistic effect of the plant leaves. Hence, this study was undertaken.

Research Questions

This study determined the effectiveness of tobacco and chili leaves extract as kitchen molds remover in the Municipality of San Pascual, Masbate Province, School Year 2023-2024.

Specifically, it answered the following questions:

1. What are the phytochemical compositions of tobacco and chili leaves extract as kitchen molds remover?
2. What are the procedures or steps in producing tobacco and chili leaves extract as kitchen molds remover?
3. What formulation of tobacco and chili leaves extract is most effective in removing kitchen molds?
4. What is the average performance time of tobacco and chili leaves extract in terms of its capability in removing kitchen molds?
5. Is there a significant difference among the formulations of tobacco and chili leaves extract?
6. What is the level of acceptability of the developed product kitchen molds remover from tobacco and chili leaves extract in terms of:
   a. odor;
   b. effectiveness;
   c. functionality or usability; and
   d. sustainability?
7. What is the socio-economic desirability of the tobacco and chili leaves extract as kitchen molds remover?

METHODOLOGY

This section presents the research design, the respondents, the procedure of investigation, the tools used in data gathering, and the statistical tools applied in evaluating of effectiveness of the developed kitchen molds remover from tobacco and chili leaves extract.

Methods Used

The study utilized the descriptive-comparative, experimental and Research Development methods. The descriptive method was used to determine the preparation of the formulations, its effectiveness, level of acceptability and social

The experimental method was used to develop a kitchen molds remover from tobacco and chili leaves extract. Three formulations were made of different compositions of the manipulated variable. These manipulated variables were the tobacco and chili leaves extract. The three formulations were tested or tried out by four groups of evaluators.

The comparative method was used to determine the significant difference of the three formulations. This was a way to find out the significant difference of those formulations in terms of their effectiveness, acceptability and performance time.

The Research and Development method was also used in the production of the alternative kitchen molds remover. Since the experimental method was also used, therefore, the product that was planned to be produced was developed.

Respondents of the Study

The participants who assessed the effectiveness of the alternative kitchen molds remover were the housewives, learners, TLE teachers, and restaurant owners in the municipality of San Pascual, Masbate Province, School Year 2023-2024. Purposive sampling was used to identify the respondents. Table 1 shows the frequency distribution and percentage of the participants, consisting of 4 groups who were Housewives, Learners, TLE Teachers, and Restaurant Owners.

Table 1
Distribution of Participants

Group	Frequency	Percentage (%)
Housewives	10	25
Learners	10	25
TLE Teachers	10	25
Restaurant Owners	10	25
Total	**40**	**100**

There were 10 participants from each group who evaluated the produced kitchen molds remover. Hence, there were 40 total of participants in all. This was chosen to equate the number of participants per group since there were only few restaurant owners and TLE teachers in the locale of the study. Besides they were the only ones who agreed to be participants of the study.

Data Gathering Tools

There were two-data gathering tools used in the study. These were the questionnaire and the evaluation checklist.

Questionnaire. The researcher used a printed or paper and pencil survey questionnaire to gather the data from the respondents. It was converted into a printed form for face to face distribution of the said questionnaire. Four (4)-point Likert scale was utilized to indicate the responses of the respondents.

The questionnaire consisted of four parts. The first part dealt on the respondent's category or group, the second part was about the level of effectiveness of kitchen molds remover formulations, the third part was about the level of acceptability of the kitchen molds remover, while the last part was about the performance time of the kitchen molds remover formulations.

The questionnaire was subjected to validation by the experts who have good knowledge and practice of research undertakings. They looked into the format, the items included and how they were presented. After the validation it was subjected to a dry-run to determine whether the items included in the questionnaire observed clarity and

administrability. The respondents involved in the dry-run of the questionnaire were similar to the proposed final respondents. These group were no longer used as respondents during the final evaluation of the product.

The result form the dry-run was treated through the use of Cronbach alpha to determine the reliability of the instrument. A four-point Likert scale was used in the evaluation of the kitchen molds remover to quantify the responses of the respondents. The following were the weights together with their interpretations and rubrics.

Weights	Verbal Interpretation
4	Highly Effective (HE)
3	Moderately Effective (ME)
2	Less Effective (LE)
1	Least Effective (Lst E)

Rubrics for Removing Kitchen Molds

Very Fast (VF)	Moderately Fast (MF)	Less Fast (LF)	Least Fast (LstF)
The molds in the kitchen were removed within 5-15 minutes.	The molds in the kitchen were removed within 16-30 minutes.	The molds in the kitchen were removed within 31-45 minutes.	The molds in the kitchen were removed after 1 hour.

Evaluation Checklist. This was used to determine the appropriateness of the tool to evaluate the questionnaire used by the evaluators. It was a way to determine the validity of the items. Since the study wanted to determine the effectiveness, level of acceptability and performance time of the produced alternative kitchen molds remover, the evaluation checklist contained statements whether those characteristics were captured in the questionnaire.

Procedure of Investigation

The following were the processes that were observed by the researcher in order to realize the goals of the study.

Conceptualization of the Research Problem. The researcher identified why a study on a particular topic is needed. Since ideas generated were still broad and vague, the researcher had to redefine them. This process included identification and definition of the variables to be studied, development of the theoretical and conceptual framework of the study, formulation of the major and specific problems to be investigated and the formulation of hypothesis.

Approval of Research Title. Conceptualized study was then presented to the adviser for checking and for further corrections before it was presented to a panel of examiners for its approval.

Securing Permit to Conduct the Study. After the approval of the paper, a letter securing permit from the school head of San Pascual National High School was made.

Preparation of the Instrument. After the permit was approved, the researcher immediately prepared the data gathering tool based of the specific problems of the study.

Validation or Dry-run. The tool specifically the questionnaire and evaluation-checklist underwent validation by experts. After its validation, a dry-run was conducted to selected respondents who were not the subjects of the study. This was done to determine the clarity and administrability of the tools. Reliability of the tools were determined through the use of Cronbach alpha.

Administering and Retrieval of Questionnaires. The survey questionnaires were distributed personally to the resondents. This facilitated the researcher to answer and clarify questions needing further explanations. Besides, it was an opportunity to interview them. After they were accomplished, they were also collected personally. Hence, the questionnaires were retrieved, coded, tallied, and tabulated in order for appropriate statistical treatment can be applied.

Processing of the Data Gathered. The data were treated using appropriate statistical tools to ensure that correct analysis and interpretation of data be made.

Analysis of the Result. The quantified results were placed in tabular form to facilitate analysis and discussion. The analysis and interpretation were made to answer the specific problems raised in this study.

Writing and Submission of the Manuscript. After completing the data analysis and interpretation, the researcher prepared the manuscript and was submitted to the Dean after it was endorsed by the Adviser. It was then passed to the Panel of Examiners for their evaluation.

Approval and Acceptance of the Study. When suggestions were incorporated in the manuscript, the same was reprinted and was submitted for approval and acceptance.

Statistical Tools

There were three statistical tools used to treat the data gathered for analysis and interpretation. A statistical software available in the internet was used.

Weighted Mean. This was used to determine the level of acceptability and effectiveness of the different formulations as alternative kitchen molds remover.

Percentage. This tool was used to determine the proportions of respondents evaluating the level of effectiveness of the kitchen molds remover.

One-Way ANOVA. This was used to determine the significant difference of the level of acceptability and effectiveness of the product based from the three formulations.

RESULTS AND DISCUSSION

This section is a discussion of the results of the study. Data were placed in tabular form to facilitate analysis and discussion.

Phytochemical Compositions

The phytochemical compound responsible for mold inhibition in tobacco is 2,4- dihydroxy-7-methoxy-1,4-benzodioxine (DHM), also known as dehydrodiisidinol. This compound has been extensively studied for its antimicrobial properties and has been found to effectively inhibit the growth of various molds, including *Aspergillus niger* and *Penicillium citrinum* (Li et al., 2010). DHM is derived from the flavanol quercetin through a series of biochemical reactions, and its synthesis is enhanced in tobacco leaves under stress conditions such as drought or pathogen infection (Bhattacharyya et al., 2015). The presence of DHM in tobacco has been linked to its natural mold inhibition properties, making it a valuable compound for use in food preservation and pharmaceutical applications.

Other studies about chemicals from the tobacco plant was done by Winnall et al. (2022). They stated that nicotine which is the main addictive chemical in tobacco products, acts as a natural pesticide. It is because of its toxicity to many insects and other pests. This was the reason why nicotine was used as an agricultural pesticide in the past that was produced mainly from the leaves of the plant.

In the review made by Zou et al. (2021) about functional phytochemicals in the tobacco plant, they summarized the bioactive compounds from tobacco that have been discovered which were attributed to tobacco extracts. These functional bioactive compounds from tobacco wastes found were anti-inflammatory, antitumor, antibacterial, and antioxidant. Thus, there are potential value of tobacco waste reuse.

On the other hand, the phytochemical compound responsible for mold inhibition in chili *(Capsicum annuum)* is capsicin. Capsicin is a natural phenolic compound that belongs to the group of capsaicinoids, which are responsible for the spicy taste of chili peppers. Capsicin has been found to possess strong antimicrobial properties against various molds, including *Aspergillus niger*, *Penicillium citrinum*, and *Fusarium oxysporum* (Kim et al., 2016). The antimicrobial activity of capsicin is attributed to its ability to disrupt the cell membrane structure of molds, leading to cell death.

Other studies that considered about the antifungal property of chili was done by Sittisart, Yossan and Prasertsan (2017). This was combined with other extracts taken from shallots and garlic. They stated that the extract taken from the chili, shallots and garlic contained polyphenols described as apigenin, gallic acid, cathechin, quercetin, kaempferol and tannic acid, are well known compounds having antifungal activity. Moreover, they revealed that the highest levels of percentage inhibition of mycelial growth were with garlic extract, followed by shallots and chili extracts respectively. Thus, the antifungal properties of these plant extracts were partly due to polyphenols.

This findings is supported by Bruner's Theory anchored on Discovery Learning (Pappas, 2014). The basic information obtained from the phytochemical compositions contained in both tobacco and chili leaves would lead to the discovery of something useful so that it would bring benefits to humans in their environments and abode. Thus, performing experiments to discover new knowledge and contribution to Science can be made of these information.

Procedure or Steps

The preparation of the mixture for kitchen molds remover involved the collection of raw materials such as tobacco and chili leaves as the main ingredients and fixed ratio of menthol and water. The tobacco and chili leaves were washed with tap water to ensure that they were free from dust particles and dirt.

There were three formulations prepared for the kitchen molds remover. Formulation 1 will consist of 150 ml or tobacco leaves extract, 150 chili leaves extract, 10 ml of menthol, and 190 ml of water. Formulation 2 will consist of 200 ml of tobacco leaves extract, 100 ml of chili leaves extract, 10 ml of menthol, and 190 ml of water. Formulation 3 will consist of 100 ml of tobacco leaves extract, 200 ml of chili leaves extract, 10 ml of menthol, and 190 ml of water.

In the preparation of the kitchen molds remover the tobacco and chili leaves were collected and were thoroughly washed with running water for a minute and rinse briefly before the drying process; the tobacco and chili leaves were dried under the heat of the sun until they were crisp. Then, the extraction was done by decoction process. After getting the extract, desired amount of it based on the different formulations will be added to the water. The mixtures will be strained using a cheese cloth to separate the leaves from filtrate. After straining, the desired amount of menthol was added to the mixtures and heated in a pot with low fire. Stirring was continued until the ingredients in the mixture was completely dissolved.

After the three formulations underwent the process and were done, the testing was made by the respondents of which among the formulations best removes the molds in a shorten time.

The User Innovation Theory supports this part of the study. It is because users, such as home cooks or chefs, can develop innovative solutions to their own needs and

problems. In this case, the users have identified a common problem of mold growth in kitchen utensils and food items, and they have experimented with natural alternatives to chemical mold removers. Thus, the tobacco and chili leaves extracts contain compounds that have antimicrobial properties, making them effective in killing mold spores. This innovation not only provides a safer and healthier alternative to chemical mold removers but also aligns with the growing trend of using natural and organic products in daily life.

Formulation of Tobacco and Chili Leaves Extract

Table 4 shows the formulations constructed for the mixture of tobacco and chili leaves extract. There were three formulations used in order to test which would be the most effective for mold control. The data of the formulations prepared were shown in Table 4.

Table 4
Formulations of Tobacco and Chili Leaves Extract for Kitchen Mold Removal

Ingredients	Formulations		
	1	2	3
Tobacco Leaves Extract	150 mL	200 mL	100 mL
Chili Leaves Extract	150 mL	100 mL	200 mL
Menthol	10 mL	10 mL	10 mL
Water	190 mL	190 mL	190 mL
Total	500 mL	500 mL	500 mL

It could be noted that the manipulated variables were the tobacco and chili leaves extract. The constant variable were menthol and water. In Formulation 1, there was equal amount of tobacco and chili extracts. In Formulation 2, there were more of tobacco leaves extracts compared to chili leaves extract. In Formulation 3, it was the reverse of Formulation 2. In other words, there were more of chili leaves compared to tobacco leaves extract. The constant variables had the same quantities in all formulations. All of the ingredients used were in milligrams (ml).

Further analysis of the formulation shows that Formulation 1 had equal quantities of tobacco and chilli extracts. In contrast, Formulations 2 and 3 had inversed quantity of extracts. The total volume of each complete formulation was similar which was 500 mL. These formulations were placed in spray bottles and were labelled according to their composition as Formulation 1, Formulation 2 and Formulation. This was to facilitate identification of when the fungicide were tried out by the selected evaluators in their respective abode.

This approach to coming up with formulations to remove kitchen molds was different from other experiments made on fungicides. In the study by Li et al. (2020), their

approach to fungicide formulation was different. With the three types of pyraclostrobin formulations, including emulsifiable concentrate, suspension concentrate and microcapsules, Pyraclostrobin formulation EC had the highest control efficacy on cucumber anthracnose both in pot and field experiments. Moreover, the physicochemical properties of the spray dilution, their interaction with target leaves and dissipation dynamic of the active ingredient were found to be highly potential factors that would significantly influence the control efficacy of different formulations.

The Innovation Theory of Schumpeter as cited by Putthiwanit (2016) supports this study. The theory stated that innovations cause continuous progress and improve the standard of living for everyone. It was said that the innovator has the power to handle the old system and transforms theory into reality through courage and determination. Thus, this theory affirms the concept that attitude and skills are needed along the process of inventions and new products. Hence, new products can be created through courage, creativeness, and experimentation.

Average Performance Time of Tobacco and Chili Leaves Extract

When the different formulations were ready for testing because they were placed in spray bottles, they were distributed to selected evaluators for their application. Instructions were given to them so that the proper way of using them and recording of observation results were followed.

Table 5 shows the results in terms of the average performance time of tobacco and chili leaves extract in terms of its capability in removing kitchen molds.

Table 5
Average Performance Time of Tobacco and Chili Leaves Extract in Removing Kitchen Molds

Evaluators	Formulation		
	1	2	3
Learners	2.50	3.40	2.00
Housewives	2.80	3.90	2.40
TLE Teachers	3.00	3.70	2.20
Restaurant Owners	2.50	3.70	2.50
Average	2.70	3.68	2.28
Interpretation	Moderately Fast	Very Fast	Moderately Slow
Rank	2	1	3

Legend:

Scale Interval	*Performance Time*	*Interpretation*
3.26-4.00	*5-15 minutes*	*Very Fast*
2.51-3.25	*16-30 minutes*	*Moderately Fast*
1.76-2.50	*31-45 minutes*	*Moderately Slow*
1.00-1.75	*46-60 minutes*	*Very Slow*

Based from the results, the Formulation 2 received the highest rating (WM=3.68) which is interpreted as “Very Fast”. The performance time is within the range of 5-15 minutes. Formulation 1 gained an average of 2.70 which is interpreted as moderately fast. Lastly, Formulation 3 gained an average of 2.28 which is interpreted as Moderately Slow.

Overall, in terms of the average performance time, Formulation 2 was the fastest among all the formulations. It means that the performance of the alternative kitchen mold remover is efficient in terms of its time effect as it acts fast as compared to the other formulations.

The result paralleled the findings of Aftab et al. (2017) entitled "Use of Plant Extracts for Controlling Fungal Growth on Fresh Fruits and Vegetables: A Review". This discussed the potential of plant extracts, including chili and tobacco leaf extracts, as natural alternatives to synthetic fungicides to control mold growth on fresh produce. It can then be said that tobacco and chili leaf extracts are effective alternative kitchen molds remover.

Significant Differences among the Formulations

Table 6 exhibits the significant differences among the formulations of tobacco and chili extract as as a kitchen mold remover.

Table 6
Significant Differences among the Formulations

Aspects	Df	F-value	critical-value	Remarks
In terms of Effectiveness	2,9	32.015	5.1433	Significant
In terms of Performance Time	2,9	69.336	5.1433	Significant
In terms of Acceptability	2,9	62.084	5.1433	Significant

Computation: Appendix D

As per the results, it can be seen that in terms of Effectiveness, the F-value (32.05) is larger than the critical value (5.1433). Hence, the null hypothesis is rejected. The study accepts that there is a significant difference between the formulations in terms of effectiveness. Furthermore, in terms of Performance Time, the F-value (69.336) is also larger than critical value (5.1433). The null hypothesis is rejected and the alternative hypothesis is accepted which states that there is a significant difference between the formulations in terms of performance time. Finally, in terms of Acceptability, the study accepts that alternative hypothesis which states that there is a significant difference between the formulations in terms of acceptability as the F-value (62.084) is larger than critical value (5.1433).

As a whole, all of the formulations were seen to have significant differences in different aspects specifically in their effectiveness, performance time, and acceptability. The difference could be attributed to composition of the different formulations used.

This result showed and supported the study published in the Journal of Food Science and Technology in 2021 that investigated the potential of tobacco *(Nicotiana tabacum)* and chili *(Capsicum annuum)* leaves extracts as kitchen mold removers. The researchers found that both extracts exhibited significant antifungal activity against common kitchen molds such as *Aspergillus niger*, *Penicillium chrysogenum*, and *Alternaria alternata*. The study suggested that these extracts could be used as natural alternatives to synthetic mold inhibitors in food processing (Chen et al., 2021).

Level of Acceptability of the Developed Product

Table 7 presents the level of acceptability of the new product in terms of Odor, Effectiveness, Usability, and Sustainability of the following formulations.

Table 7

Level of Acceptability of the Developed Products

Formulation	Characteristics	Evaluator				Ave.	Rank
		A	B	C	D		
1	Odor	2.90	2.80	2.80	3.20	2.93	2
	Effectiveness	2.50	2.80	3.00	2.60	2.73	4
	Usability	3.20	3.40	3.20	3.40	3.30	1
	Sustainability	2.50	3.10	2.80	2.80	2.80	3
2	Odor	2.90	3.10	3.10	3.30	3.10	3
	Effectiveness	3.40	3.90	3.70	3.70	3.68	1
	Usability	3.30	3.70	3.60	3.40	3.50	2
	Sustainability	2.50	3.50	3.10	2.80	2.98	4
3	Odor	3.00	2.90	3.00	3.20	3.03	2
	Effectiveness	2.20	2.40	2.30	2.50	2.35	4
	Usability	3.10	3.20	3.10	3.40	3.20	1
	Sustainability	2.40	3.10	2.70	2.80	2.75	3

Legend: A=Learners; B=Housewives; C=TLE Teachers; D=2.78Restaurant Owners

Scale Interval	*Interpretation*
3.26-4.00	*Highly Acceptable*
2.51-3.25	*Moderately Acceptable*
1.76-2.50	*Less Acceptable*
1.00-1.75	*Least Acceptable*

It can be noticed from the table that Formulation 1 had its highest rating in Usability. It has gained an average of 3.30 which is interpreted as Highly Acceptable. This was followed by Odor with a weighted mean value of 2.93 which was interpreted as moderately acceptable. Lastly, Effectiveness was seen as the lowest characteristic for Formulation 1 as it has only gained 2.73 but it was still moderately acceptable.

On the other hand, for Formulation 2, the characteristic with highest rank was for its Effectiveness. It has gained an average weighted of 3.68. This was followed by its Usability as evidenced by an average weighted mean of 3.50. Both characteristics is interpreted as “Highly Acceptable”. Odor gained an average weighted mean of 3.10. Lastly, Sustainability obtained an average weighted mean of 2.98. Both were interpreted as “Moderately Acceptable”.

For formulation 3, Usability gained the highest rank since it average weighted mean was 3.20. This was followed by Odor with an average weighted of 3.03. Sustainability was found to have the lowest average weighted mean as it yielded 2.75. All of these characteristics were interpreted as moderately acceptable.

To have a gauge of the overall acceptability of the new product, Table 8 shows the comparison of values based on the reports of the evaluators.

The table exhibits the overall level of acceptability of the developed product as evaluated by the four chosen evaluators. It can be seen that Formulation 2 gained the highest average and highest evaluation AWM=3.75) among all the group of respondents. It is interpreted as “Highly Acceptable”. Formulations 1 and 3 gained an average of 2.35 and 1.98 respectively which is interpreted as “Less Acceptable”.

Overall, the highest level of acceptability among all the formulations considering all the characteristics was Formulation 2. This only means that it is seen to be the most usable, most effective, most sustainable, and has the most pleasant odor.

Table 8
Overall Level of Acceptability of the Developed Product

Evaluators	**Formulation**		
	1	2	3
Learners	2.70	3.70	2.20
Housewives	1.80	3.70	2.00
TLE Teachers	2.50	3.80	1.90
Restaurant Owners	2.40	3.80	1.80
Average	2.35	3.75	1.98
Interpretation	Less Acceptable	Highly Acceptable	Less Acceptable
Rank	2	1	3

Legend:

Scale Interval	*Interpretation*
3.26-4.00	*Highly Acceptable*
2.51-3.25	*Moderately Acceptable*
1.76-2.50	*Less Acceptable*
1.00-1.75	*Least Acceptable*

This findings is corroborated by the study published in the Journal of Applied Microbiology in 2021. It discussed the potential of plant extracts, including tobacco and chili leaves extracts, as natural mold inhibitors. The authors highlighted the increasing demand for natural alternatives to synthetic mold inhibitors due to health and environmental concerns. The review suggested that further research i
was needed to optimize the use of plant extracts as mold inhibitors in food processing (Kumar et al., 2021).

Socio-Economic Desirability of the Tobacco and Chili Leaves Extract as Kitchen Molds Remover

From the feedback of the evaluators, the developed kitchen molds remover from tobacco and chili leaves extract had the following socio-economic desirability:

In terms of advantages, developed kitchen molds remover gives the following such as: (1) Improved hygiene. Mold growth in kitchens can pose a serious health hazard, as it can lead to respiratory problems, allergies, and infections. Using a mold remover can help to eliminate mold spores, making the kitchen a healthier and more hygienic place to work and eat; (2) Prevention of damage. Mold can cause significant damage to kitchen surfaces, such as walls, ceilings, and cabinets. By removing mold before it spreads, one can prevent costly repairs and replacements down the line; (3) Elimination of odors. Mold can produce strong, unpleasant odors that can be difficult to eliminate. A mold remover can help to eliminate these odors, leaving the kitchen smelling fresh and clean; (4) Easy to use. Many mold removers are easy to use and require minimal effort or preparation. Simply spray the affected area with the remover, let it sit for a few minutes, and then wipe it away with a cloth or sponge; (5) Safe for use. Many mold removers are designed to be safe for use on a variety of kitchen surfaces, including countertops, sinks, and cabinets. This means they can use them without worrying about damaging surfaces or causing any adverse effects on health; and (6) Cost-effective. Compared to the cost of repairing mold damage or replacing contaminated surfaces, using a mold remover is a cost-effective way to keep your kitchen clean and healthy. By eliminating mold before it spreads, one can save money in the long run by avoiding costly repairs and replacements; and

Increased production of raw materials such as tobacco and chili can lead to several positive outcomes for farmers and the local economy. Here are some potential benefits:
(1) Higher income. When farmers produce more tobacco and chili, they can sell more of their crops, leading to increased income. This can help farmers to improve their standard of living and provide better opportunities for their families; (2) Diversification of income. By growing more tobacco and chili, farmers can diversify their income streams. This can help to reduce the risk associated with relying on a single crop, as they will have multiple sources of income if one crop fails or prices drop; (4) Job creation. As demand for tobacco and chili increases, there may be a corresponding increase in jobs in related industries such as processing, packaging, and transportation. This can provide employment opportunities for local people and help to stimulate economic growth in the area; (5) Improved infrastructure. Increased production may require improvements to infrastructure such as roads, storage facilities, and processing plants. These investments can help to

improve the overall infrastructure of the area, making it more attractive to businesses and investors; (6) Increased tax revenue. As farmers earn more income from selling their crops, they will also pay more in taxes. This can provide a boost to local government revenue, which can be used to fund public services and infrastructure improvements.

Overall, increased production of raw materials such as tobacco and chili can have a positive impact on farmers, local economies, and society as a whole by providing increased income, job creation, improved infrastructure, and tax revenue.

Conclusions

From the foregoing findings, the following conclusions were drawn:

1. For Tobacco, the main phytochemical composition that inhibits the efficiency of the antifungal properties is 2,4-dihydroxy-7-methoxy-1,4-benzodioxine (DHM), also known as dehydrodiisidinol. Whereas, for the chili leaves extract, capsicin is the most responsible for mold inhibition.

2. The procedures in making the formulations for the mixture of tobacco and chili leaves extract is comprised of acquisition of materials, washing, drying, extraction, adding of water, straining, and stirring.

3. The most efficient formulation is Formulation 2 composed of 200 mL of Tobacco, 100 mL of chili leaves extract, 10 mL of menthol, and 190 mL of water. This is due to the low concentration of chili leaves extract in the mixture which made it the most efficient and deemed as very fast removal of molds.

4. Formulation 2 with high volume of Tobacco leaves extract and low volume of Chili leaves extract gained the highest performance time among other formulations.

5. All of the formulations have significant differences in different aspects specifically on effectiveness, performance time, and acceptability.

6. In terms of Odor, Effectiveness, Functionality/Usability, and Sustainability, Formulation 2 has the highest level of acceptability.

7. The socio-economic desirability of the product were on increased income, and government benefits.

Recommendations

Based on the conclusions, the following recommendations are offered:

1. Further investigation on the antifungal properties of both tobacco and chili may be done since the study was limited to determining the most efficient formulation only.

2. Future researchers can add testing procedures in order to efficiently determine the antifungal properties inclined with the materials used.

3. Future studies may add more substances in terms of its fragrance and also other ingredients that has antifungal properties.

4. Longevity of use or shelf life and effectiveness rate may be done further to determine the efficacy of the new product as kitchen mold remover.

5. The new product may be tried out with other fungi or pests so that it could be used in varied ways.

6. Better and proper packaging of the new product may be done to be assured of its saleability and sellability once it is put in the market.

Compliance with Ethical Standards

The nature of study was explained to the participants that they would try out a new product for kitchen molds removal. It was explained that they could withdraw at any point of the experimentation. Participants all signed the consent form.

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UNPACKING PUPILS' READING ABILITY THROUGH PARENT-GUIDED READING INTERVENTION

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ABSTRACT

The study aimed to determine the pupils' reading ability through parent-guided reading intervention. Specifically, this study tried to evaluate the pre-reading test scores of pupils of Pedro P. Santos Memorial Elementary and the post-reading test scores of pupils when parent-guided reading intervention was introduced. This research used a true experimental research design and employed a pre and post-reading test before and after the parent-guided reading instruction was used. The respondents of the study are 25 pupils who were tagged as nonreaders before the conduct of school-based reading tests. Mean gain score and t-test statistical tools used in processing the data. On the pre- reading test pupils before the conduct of parent-guided instruction were found to be in a Frustration Level which means pupils cannot read word/words without the assistance of the teacher. On the post-reading, after the parent-guided instruction was employed were found to be at a Frustration Level which means pupils cannot read word/words without the assistance of the teacher. Interestingly it was found that there is a big difference between the means of the pre-reading and post-reading scores of the pupils which implies that there's an improvement in the reading skills of the pupils**.**

Keywords: *Pupils' Reading Ability, Parent Guided, Reading Intervention, Philippines*

INTRODUCTION

The shortcomings in basic reading abilities are known to have constrained millions of children from taking advantage of the extensive benefits of education. These include achieving high levels of fluency, learning more advanced skills, and progressing to higher levels of education in India according to Abadzi, H. (2012)

Reading is a distinct, cognitive human skill that is crucial to life in present societies, but, for about 250 million primary school-aged children in developing countries, learning to read was extremely difficult. Over half of all pupils in second grade cannot read a single word and almost 30 percent of all third-grade learners were zero-word readers Education for All.

Numerous DepEd initiatives purposed to develop and strengthen Filipino children's capacity to read in the early grades. These include the "Every Child A Reader Program (ECARP)," "project D.E.A.R (Drop Everything and Read)," "Reading Assistance Program," "Summer Reading Camp," the observance of "National Reading Month" every November, and other school-based reading activities. However, a report on the country's 2014 Early Grade Reading Assessment (EGRA) revealed alarming results. In letter- sound identification, 10- 25 percent of the pupils tested could not identify a single letter- sound correctly. Thus, this study draws on the implementation parent guided reading intervention among nonreader pupils of Pedro P. Santos Memorial Elementary School, President Quirino North District, Division of Sultan Kudarat

Research Questions

Generally, this study determines the unpacking pupils' reading ability through parent-guided reading intervention in Pedro P. Santos Memorial Elementary School.

Specifically, this study sought to answer the following questions:

1. What is the pre-reading test score of pupils of Pedro P. Santos Memorial Elementary School?
2. What was the post-reading test score of pupils of Pedro P. Santos Memorial Elementary School when parent-guided reading intervention was introduced?
3. Is there a significant difference in the pre-reading test score and post-reading test score of pupils after parent-guided reading intervention was introduced?

METHODOLOGY

This research used a true experimental research design and employed a pre and post-reading test before and after the parent-guided reading instruction was used. The respondents of the study are 25 pupils who were tagged as nonreaders before the

conduct of school-based reading tests. Mean gain score and t-test statistical tools used in processing the data.

RESULTS

On the pre-reading test pupils before the conduct of parent-guided instruction were found to be in a Frustration Level which means pupils cannot read word/words without the assistance of the teacher.

On the post-reading, after the parent-guided instruction was employed were found to be at a Frustration Level which means pupils cannot read word/words without the assistance of the teacher.

Interestingly it was found that there is a big difference between the means of the pre-reading and post-reading scores of the pupils which implies that there's an improvement in the reading skills of the pupils.

DISCUSSION

On pre-reading test scores of pupils of Pedro P. Santos Memorial Elementary School

De Dios (2013) emphasized that two of every five pupils in grade 3 who encountered difficulties in reading were likely to fail upon entering junior high school

Table 1. Level of Pre-reading Scores of Pupils

	Mean	Std Deviation	Description
Pre-Reading Test	**38.65**	**13.73**	**Frustration Level**

Table 1 shows the level of pre-reading scores of the pupils of Pedro P. Santos Memorial Elementary School. It has a mean of 38.65 which falls under "Frustration Level". This implies that the pupils have very poor reading skills. Maybe it is because the pupils were not yet exposed to some intervention.

The poor performance of the learners in reading competencies as portrayed in their below-average level in the pre-test can be associated with their failure to embrace the basic competence of decoding letter symbols and associating their names and as well as their corresponding sounds. This situation came up despite the clarity of the instructional medium which is the mother tongue of the learners. Somehow, in the given time provided to the learners, they have difficulty recalling appropriately each letter's name. Noticeably, only the first five letters in the alphabetical sequence are commonly recalled correctly.

On the post-reading test score of pupils of Pedro P. Santos Memorial Elementary School when parent-guided reading intervention was introduced

Table 2. The Level of Post-reading Scores of Pupils

	Mean	Std Deviation	Description
Post-Reading Test	**82.19**	**11.05**	**Frustration Level**

Table 2 reveals the level of post-reading scores of the pupils of Pedro P. Santos Memorial Elementary School after the parent-guided reading intervention was introduced. It has a mean of 82.19 which signifies that there is a big improvement in the reading skills of the pupils after the intervention has been introduced. This implies that the intervention was effective. However, it still falls under the "Frustration Level" which means that there is still a need to improve the reading skills of the pupils. This may also suggest that the intervention being introduced should be continued or other interventions should be employed.

On the significant difference in the pre-reading test score and post-reading test score of pupils after parent-guided reading intervention was introduced

Table 3. The Pre-reading and Post-reading Scores of Pupils

Reading Scores	Mean	p-value	Interpretation
Pre-reading Scores	38.65	.000	**Significant**
Post-reading Scores	82.1923		

Table 3 shows the difference between the pre-reading and post-reading scores of the pupils of Pedro P. Santos Memorial Elementary School. It can be gleaned that there is a big difference between the means of the pre-reading and post-reading scores of the pupils which implies that there's an improvement in the reading skills of the pupils. Further, Table 3 reveals that the p-value is less than 0.05 level of significance which means the null hypothesis must be rejected. This further implies that the alternative hypothesis must be accepted. Therefore, it is safe to conclude that there is a significant difference between the pre-reading and post-reading scores of the pupils.

The findings correspond with Mwangi's (2018) study which found a strong relationship between both parents' involvement in children's reading at home and their performance in Kiswahili reading comprehension.

Likewise, Lumapenet & Andoy (2017) study revealed that parents' assistance in reading significantly influences the oral and silent reading abilities of the children and that their parental self–motivation and empathy were found to be the best predictors of pupils' reading abilities. Thus, the parents should enhance and strengthen their role in the education of their children.

Conclusions

The following conclusions are drawn based on the findings of the study.

The pre-reading test and post-reading test results are at a frustrating level. Meanwhile, though it was frustration level after employing the parent-guided reading instruction it was found out that there is a significant difference.

Recommendations

From the salient findings of this study and the conclusion reached, the following recommendations are presented. The school may continue its parent-guided reading instruction to eradicate nonreaders in school. The teachers may sustain their school's best practices in teaching reading. The teachers and school heads may continue or strengthen the parent engagement in the reading performance and academic performance of learners. This study be replicated in wide scope to have a clearer picture of parent-guided instruction and add variables not included in this study.

Compliance with Ethical Standards

This paper has a single author and confirms the ethical standards.

Acknowledgments

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WHAT INFLUENCES DONOR BEHAVIOR DURING THE COVID-19 PANDEMIC? A PREDICTIVE CROSS-SECTIONAL ANALYSIS IN THE PHILIPPINES

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ABSTRACT

The donor behavior has increased to mitigate the economic impacts of the COVID-19 pandemic especially among those who have lost their jobs and source of income during this time (Nicola et al., 2020). In this predictive cross-sectional analysis, the study aims to investigate the influence of demographics (sex, age, socioeconomic status), empathy, altruism, and social media on donor behavior among Filipino donors in the National Capital Region in the Philippines, guided by Andreoni's (1989) Theory of Warm Glow. The researchers used three affective survey-type instruments in gathering data, namely Interpersonal Reactivity Index (IRI) for empathy, The Self-Report Altruism Scale (SRA) for altruism, and the Surtida & Hernandez Donor Behavior Scale (SHDBS) for donor behavior. The researchers used a separate survey questionnaire for demographics. After gathering the data, the researchers analyzed the data using Descriptive Statistics, Analysis of Variance (ANOVA), General Regression, and General Linear Models to explain the influence of demographics, altruism, empathy, and social media on donor behavior. The researchers found that demographics, source, altruism, and empathy are not significant predictors of donor behavior in the Philippine context during the peak of the COVID-19 pandemic.

Keywords: *altruism, COVID-19, demographics, donor behavior, social media*

INTRODUCTION

The COVID-19 virus has become the cause of many deaths throughout the entire globe since it's outburst in 2019 (World Health Organization, 2021). The first known infection of the virus was discovered in Wuhan, China and is transmissible through the spread of droplets (Galbadage et al., 2020) which has caused the implementation of social distancing, self-isolation, and travel restrictions. This has also led to the reduction of workforce and loss of jobs globally (Nicola et al., 2020). Due to the effects of this pandemic, many people have faced financial concerns (Wilson et al., 2020)The present situation has affected many people in the Philippines, especially those who are under the poverty line. These individuals have been finding it difficult to gather necessities such as food, toiletries, etc. Another factor is that a lot of these people lost their sources of income due to quarantine restrictions (Murakami et al., 2021; Kang et al., 2021). This has sparked the initiative of financially abled individuals to host donation drives and community pantries for them to be able to help people during the pandemic (Cleofas, 2021). This movement has influenced many people around the country and has inspired other communities and organizations to start fundraising activities. Although, this is not a sustainable economic support for those who are economically disadvantaged during the pandemic, this has served as a huge help to those in need to survive during the pandemic.

The initiative of helping people in need in times of crisis is called donor behavior. Donor behavior, as defined by Ülkü et al., (2015) is the ability of an individual to donate to other people. It is the willingness of an individual to help other people in times of crisis. This could be influenced by different factors that could affect the increase or decrease of the willingness to donate. The past literature has argued that factors including demographics – age, sex, and socioeconomic status – can influence ones' donor behavior. Past studies have argued that donation intention and perception could vary depending on a donor's demographic (Maftei, 2019; Noor et al., 2015).

Donor behavior is often associated with an individuals' empathy and altruism. As defined by De Waal, (2008) altruism refers to a specific form of motivation to benefit another individual. Andreoni et al., (2015) suggested that altruism in an individual could positively influence the donation intention of a donor. Rodrigues et al., (2021) suggested that altruism could also be the likeliness of the individual to donate depending on the level of empathy that the donor has.

Altruism is often associated with empathy and sometimes could not be differentiated, although there is a fine line between these variables wherein altruism is a manifestation of empathy. Empathy is the process where an individual put themselves in the situation of another to fully understand or to relate to the other person. It could be motivated by external factors such as advertising messages that could motivate the donation intent (Verhaert & Van den Poel, 2011). Lili et al., (2018) states that empathy and perceived credibility of individuals is a powerful and additive role when it comes to their intention to donate money.

Furthermore, it was also observed that donation behavior could be influenced by environmental factors including social media, peers, and other mediums of information. Presence of social media platforms could highly affect the donation intention among individuals (Bin-Nashwan & Al-Daihani, 2020). It was observed that social media advertisements of donation activities influence donation behavior among individuals who tend to spend an ample amount of time on social media. However, not all donors are active in using social media. In the study of Neumayr & Handy, (2019) it was found that church goers tend to participate in donation activities when it is affiliated with their religious organization. Other mediums could be newspapers and newsletters where the donation activity could be posted (Zagefka & James, 2015).

However, previous literature focused more on Western countries as a setting for charitable donations. Little information regarding the Asian context was discussed. Charitable donations during the COVID-19 pandemic also lack in terms of literature. Present literature focused on the discussion of demographics such as age, gender, and socioeconomic status as it influences donor behavior (van Rijn et al., 2019; Varnum et al., 2015; Wiepking & James, 2013; Willer et al., 2015) and how each demographic differs on how it influences donor behavior (Beadle et al., 2013; Freeman et al., 2009; Human & Terblanche, 2012; Maftei, 2019; Noor et al., 2015; Rueckert et al., 2011; Schlegelmilch et al., 1997; Shelley & Jay Polonsky, 2002; Snipes et al., 2010; van Diepen et al., 2009; van Rijn et al., 2019; Varnum et al., 2015; Wiepking & James, 2013; Willer et al., 2015) but were all set in Western countries. Furthermore, there are limited studies that focus on how environmental factors influences the donor behavior of an individual in a pandemic (Bin-Nashwan & Al-Daihani, 2020; Neumayr & Handy, 2019; Wiepking, 2010; Zagefka & James, 2015).

The researchers chose to study donor behavior in the Philippine context since they have observed that Filipino donors have been actively donating during the pandemic. The researchers wanted to explain how the presented variables (demographics, altruism, empathy, and environmental factors) could possibly influence the donation intention in a Filipino donor. The researchers specifically chose to study donation intention among donors residing in the National Capital Region since this sector has been placed in multiple lockdowns which led to loss of jobs and sources of income for many residents.

The present study aims to explain how the social independent variables of empathy, altruism, along with demographics and environmental factors could influence the donor behavior among Filipinos during this time of the pandemic. Particularly, the researchers are interested to find out how selected demographics, empathy, altruism, and environmental factors, influence donor behavior among individuals, how these factors influence donor behavior when combined, and how these factors differ when grouped according to demographics. The researchers also aim to study these variables under the Philippine context during the COVID-19 pandemic.

The research aims to know if these variables are evident among Filipino donors during the pandemic. Additionally, it aims to be a source of insight on human behavior in times of crisis and contribute to the literature regarding donor behavior, specifically in the Philippine context. Using the Theory of Warn Glow (Andreoni,

1989) as a guide, the researchers hypothesize that there are differences in donor behavior as influenced by

empathy, altruism, and environmental factors in the Philippine context during the COVID- 19 pandemic. The researchers also hypothesize that there are demographic differences on donor behavior among Filipino donors.

Research Questions

This study aims to answer the following questions:

1. What is the demographic profile of the Filipino donor-participants during the COVID-19 pandemic in the Philippine context?
2. Do demographics (sex, age, and socioeconomic status) empathy, altruism, and environmental factors explain donor behavior during the COVID-19 pandemic in the Philippine context?
3. Are there significant differences in empathy, altruism, and donor behavior during the COVID-19 pandemic when grouped according to demographics and environmental factors?

METHODOLOGY

The researchers used a non-experimental cross-sectional predictive research design as defined by Johnson (2001). The researchers chose this type of research design because the researchers predicted the influence of their proposed independent variables towards the dependent variable. In line with this, the purpose of a cross-sectional predictive is to foretell what will happen or how it influences the dependent variable in one's concept. In predicting the influences of independent variables towards dependent variables, the researchers gathered the data in a single point of time or in present time/situation.

This study took place in the Philippines, specifically in the National Capital Region, during the COVID-19 pandemic. The National Capital Region has faced multiple lockdowns and community quarantines due to the surge of COVID related cases and involves Filipino donors who have been actively donating during the pandemic. The intended sample size was 400, however the researchers gathered only 348 respondents.

The researchers utilized three quantitative data gathering instruments which includes a form that the participants filled up where they disclosed their age, sex, and their monthly income. They were also asked about the number of times they have donated, type of donation, and their source of donation information. In measuring altruism among participants, the researchers utilized the modified 20-item Self-Report Altruism Scale which is used to measure altruistic behavior among individuals (Rushton et al., 1981). The Self-Report Altruism (SRA) scale utilizes a five-point Likert-type scale ranging from 1 (never) to 5 (very often). In measuring the empathy of the participants, the researchers used the 28-item modified Interpersonal Reactivity Index (IRI) scale, which is developed and described as a multidimensional approach to individual differences in empathy (Davis, 1980). The Interpersonal Reactivity Index (IRI) scale utilizes a five-point, Likert-type scale ranging from 1 ("does not describe me well") to 5 ("describes me very well"). In measuring the donor behavior, the researchers utilized the Surtida & Hernandez

Donor Behavior Scale (SHDBS), a 30-item scale, which is developed to measure donor behavior among charitable donors (Hernandez & Surtida, 2021). The SHDBS utilizes a five-point Likert-type scale ranging from 1 (strongly agree) to 5 (strongly disagree).

The researchers gathered the data using the snowball sampling technique which was applied to the sample population which are Filipino donors residing in the National Capital Region. The researchers distributed the Google form links to charitable donors during the COVID-19 pandemic, both male and females. The researchers also asked the respondents to share the Google form link to fellow donors who have experienced donating during the pandemic. Participants for this survey were presented with an informed consent which gives them the option to participate and allow the researchers to use the data that were collected from the answers or to decline participation and not allow the use of the data collected.

Gender	Frequency		%
	Absolute	Relative	
Male	201	0.58	58
Female	147	0.42	42
Total	348	1	100

To address the three research questions in this predictive cross-sectional study on the influences of demographics, altruism, and empathy to donor behavior among Filipino donors in the Philippines, the researchers used descriptive statistics for research question 1, analysis of variance and general regression for research question 2, and general linear models for research question 3.

RESULTS

Research Question 1: *What is the demographic profile of Filipino donor-participants during the COVID-19 pandemic in the Philippine context?*

After an extensive data gathering utilizing social media platforms and email, the researchers have gathered 387 participants who have participated in the survey. The researchers a normality test which resulted in 348 participants. The researchers have analyzed four categories of the demographic profile among Filipino donor-participants: sex, age, employment status, and socioeconomic status.

Table 3.1.

Gender of Participants

Table 1 shows the number of male and female participants that participated in the study. According to the study of Van Rijn et al. (2019), females have a higher tendency of donating compared to males as females have higher empathy compared to males. In this study, it was found that the number of males who have donated during the pandemic in the National Capitol Region are higher than the number of females.

Table 3.2.

Age classification of respondents

Age Group Classification	Frequenc		%
	Absolute	Relative	
Adolescence	290	0.83	83
Early Adulthood	49	0.14	14
Middle Adulthood	9	0.03	3
Total	348	1	100

Table 2 focuses on the different age groups of the respondents that have participated in the study. The researchers utilized Erikson's Stages of Development (Erikson, 1994), as a basis for the age group classification in this study. The respondents were grouped according to the following classifications: Adolescence (ages 18-22 years old), Early Adulthood (ages 23-39 years old), and Middle Adulthood (ages 40-59 years old). It was found via this analysis that most donor-respondents are Adolescents.

Table 3.3.

Employment status of respondents

Employment Status	Frequency		%
	Absolute	Relative	
Employed in Private Company	36	0.10	10
Government Employee	3	0.01	1
Self-Employed	19	0.06	6
Student	290	0.83	83
Total	348	1	100

Table 3.3 explains the different employment statuses of the respondents that have participated in the study. It was found that most of the respondent-donors during the pandemic were students residing in the National Capital Region.

Table 3.4.

Socioeconomic status of the respondents

Socioeconomic Status Classification	Monthly Income	Frequency		%
		Absolute	Relative	
A	At least PHP 157,800	5	0.01	1
B	PHP 118,350 – PHP 157,800	7	0.02	2
C	PHP 78,900 – PHP 118,350	2	0.01	1
D	PHP 31,560 – PHP 78,900	20	0.06	6
E	PHP 15,780 – PHP 31,560	35	0.10	10

F	PHP 7,890 – PHP 15,780	43	0.12	12
G	Less than PHP 7,890	236	0.68	68
Total		348	1	100

The researchers utilized the income table as stated in the Family Income and Expenditure Survey (FIES) (Philippine Statistics Authority (PSA), 2018) and the Profile and Determinants of the Middle-Income Class in the Philippines (Ramon et al., 2018). It was found that most of the donors in the National Capital Region belongs in class G who has a monthly income not exceeding P 7,890.00 per month.

Research Question 2: ***Do demographics (sex, age, and socioeconomic status) empathy, altruism, and environmental factors explain donor behavior during the COVID-19 pandemic in the Philippine context?***

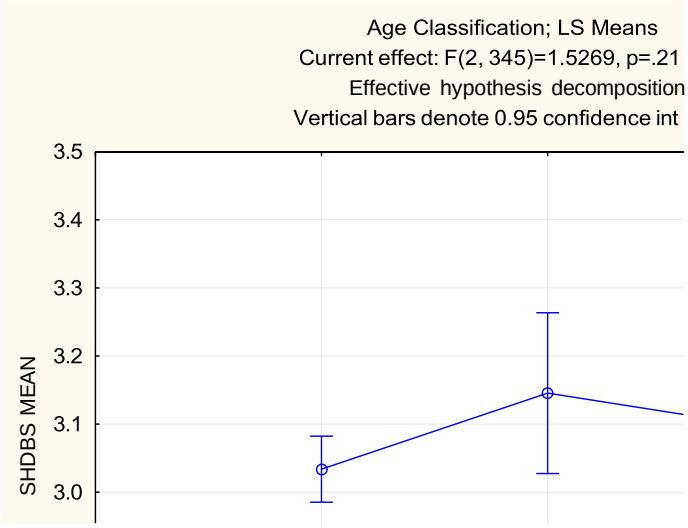


Figure 3.1. Age as a predictor of Donor Behavior

As shown in figure 3.1, donor-respondents who belong to the age group (ages 23-39 years old) have a higher donor behavior compared to other age groups. However, the researchers noted that these groups have an effect size of 0.008774, which means that the are no significant differences between the compared groups.

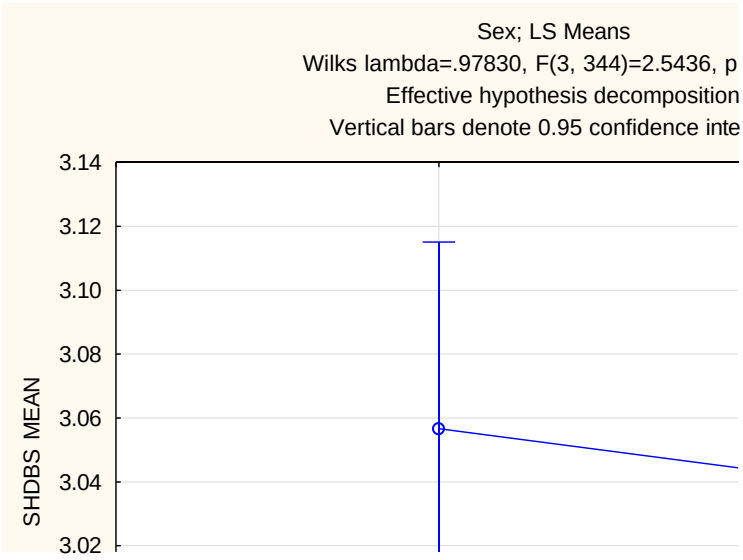


Figure 3.2. Sex as a predictor of Donor Behavior

This graph shows that males have higher tendencies to donate or has more time do participate in donation activities compared to males during the COVID-19 pandemic. This contradicts the findings of past literature (Van Rijn et al., 2019) that females have higher tendencies of donating compared to males as females would have higher empathy. It is noted that the effect size of this group is 0.000241 meaning that there is no significant difference between the groups.

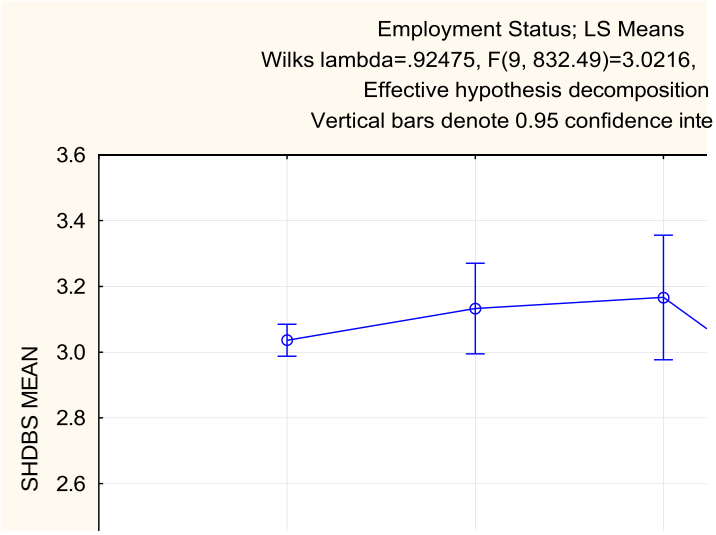


Figure 3.3. Employment Status as a predictor of Donor Behavior

This graph shows that individuals who are self-employed have higher chances of donating during the pandemic. The effect size of this group is 0.013358 which means that there is no significant difference between the groups.

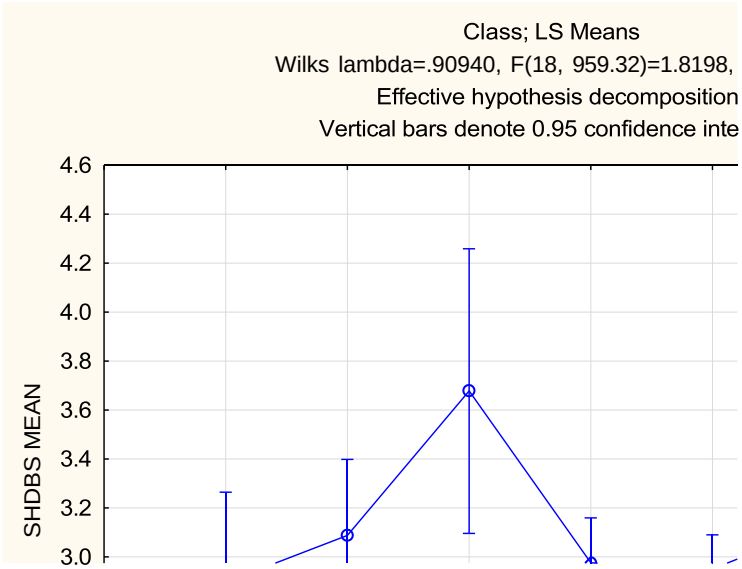


Figure 3.4. Class as a predictor of Donor Behavior

This graph shows that individuals who belong to class C with a monthly income of PHP 78,900 – PHP 118,350 (based on Family Income and Expenditure Survey (FIES) (Philippine Statistics Authority (PSA), 2018)) - tends to donate more during the times of COVID-19 pandemic. Statistically, the compared groups have no significant differences. The effect size of this group is 0.028834.

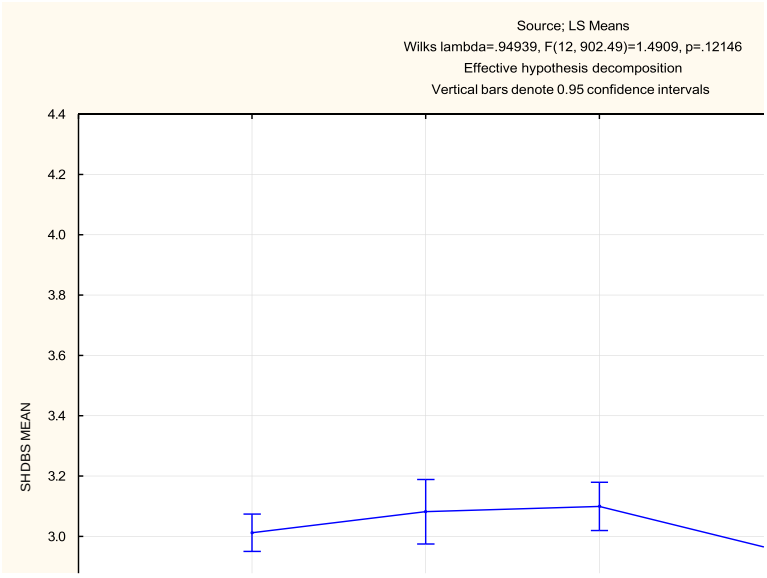


Figure 3.5. Source as a predictor of donor behavior

This graph shows that individuals who have get donation information (place of donation, charity, etc.) have a higher donation behavior compared to those who get their information from other sources. Statistically, there is no significant difference between the groups with a partial ETA of 0.010744.

Table 3.5.

Empathy and Altruism as predictors of Donor Behavior

Effect	b*	Std.Err. of b*	b	Std.Err. of b	t(345)
Intercept			3.150105	0.210534	14.96244
IRI MEAN	0.028944	0.058067	0.031472	0.063140	0.49845
SRA MEAN	-0.098748	0.058067	-0.068124	0.040059	-1.70059

According to past literature and studies, empathy and altruism are significant predictors of donor behavior among donors. Both variables are often associated with each other and one's altruism can depend on the level of empathy a donor has (Rodrigues et al., 2021However, the researchers found that these variables are not significant predictors of donor behavior in the Philippine context.

Research Question 3: ***Are there significant differences on the influences of empathy and altruism on donor behavior during the COVID-19 pandemic when grouped according to the demographics and environmental factors?***

Table 3.6.

General linear models' analysis on the differences on the influence on donor behavior of empathy, altruism, demographics, and source

Effect	SS	Degr. of Freedom	MS	F	p
Intercept	30.09660	1	30.09660	173.5709	0.000000
SRA MEAN	0.57879	1	0.57879	3.3380	0.068604
IRI MEAN	0.06334	1	0.06334	0.3653	0.546004
Age Classification	0.16091	2	0.08045	0.4640	0.629179
Sex	0.03985	1	0.03985	0.2298	0.631981
Employment Status	0.58361	3	0.19454	1.1219	0.340235
Class	1.95576	6	0.32596	1.8799	0.083639

Table 3.6 shows the significant differences between the effects of altruism,

empathy, demographics, and source on donor behavior. The researchers utilized general linear models as the analysis for these variables since the variables are both categorical and continuous. It was found that none of the variables has yielded a significant relationship with donor behavior. None of the variables, when grouped together, significantly affects donor behavior.

It was also found by the researchers that empathy among the donor-respondents doesn't significantly affect their donor behavior even if they are grouped according to demographics and source. However, the results with altruism are different.

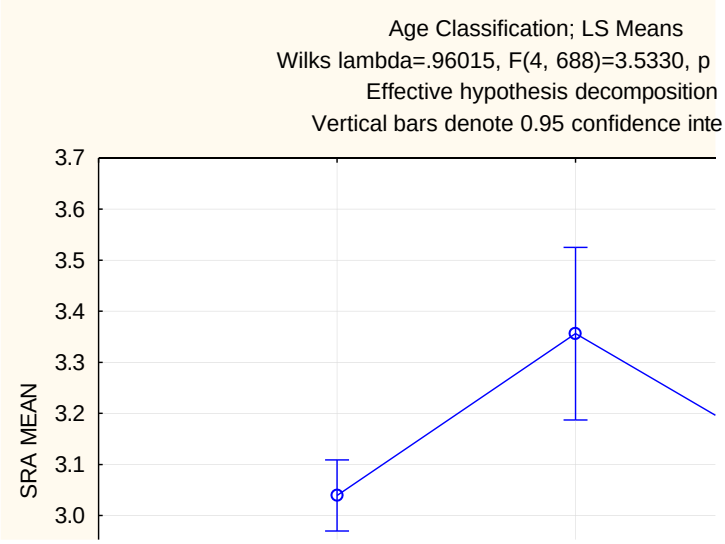


Figure 3.6. Age and Altruism

Figure 3.6 shows the differences between the altruistic behavior of the age groups. Altruistic behavior among respondents in their early adulthood phase are higher compared to adolescents and middle adults. Statistically, the age groups no significance with an effect size of 0.032586.

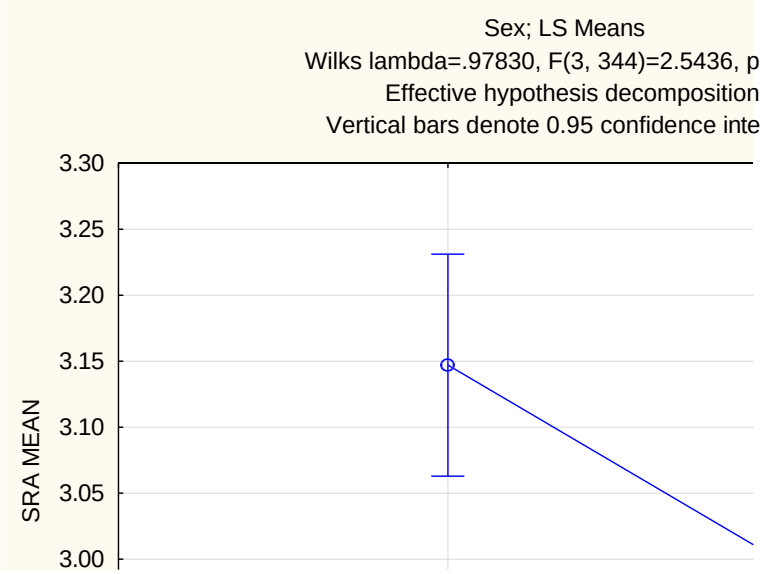


Figure 3.7. Sex and Altruism

Males have a higher altruistic behavior according to the results yielded by the researchers contradicting past literature that were cited by the researchers earlier. However, this has an effect size of 0.014147 which means that there is no significant difference between the two sexes.

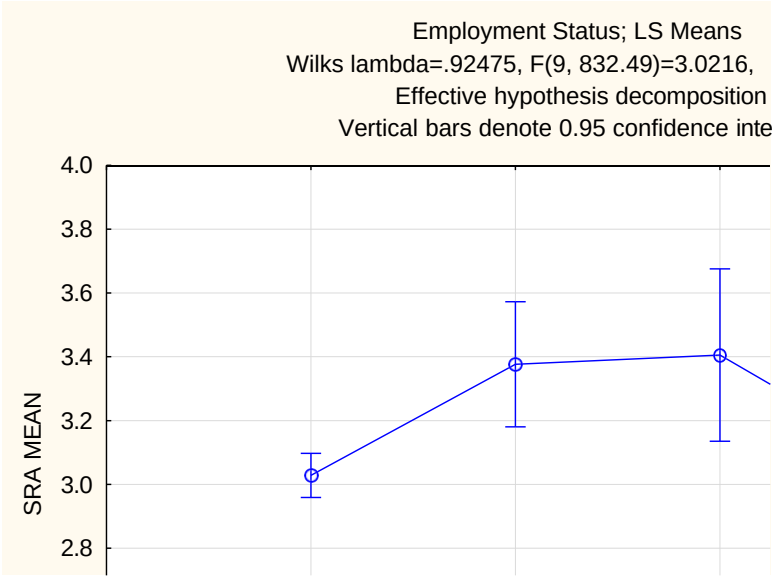


Figure 3.8. Employment status and Altruism

Furthermore, self-employed respondents tend to have a higher donor behavior compared to other groups of employment. It is noted by the researchers that the effect size of these groups is 0.046014 which means that there is no significant difference between the tested groups.

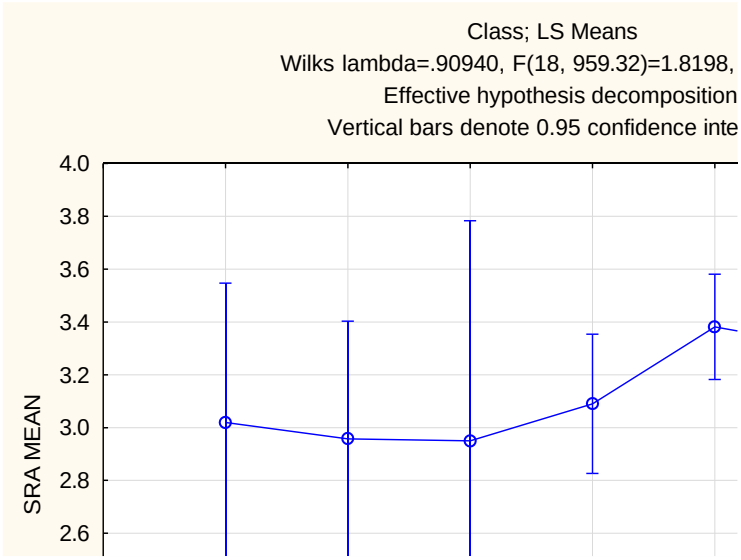


Figure 3.9. Socioeconomic status and altruism

The socioeconomic status among the respondents was divided into seven classes, all with a corresponding monthly income. It was found that respondents who belonged to class E – with a monthly income of PHP 15,780 – PHP 31, 560 – have a higher altruistic behavior compared to those in other groups. Statistically, this group has yielded an effect size of 0.051208 which means that there is no significant differences between the groups.

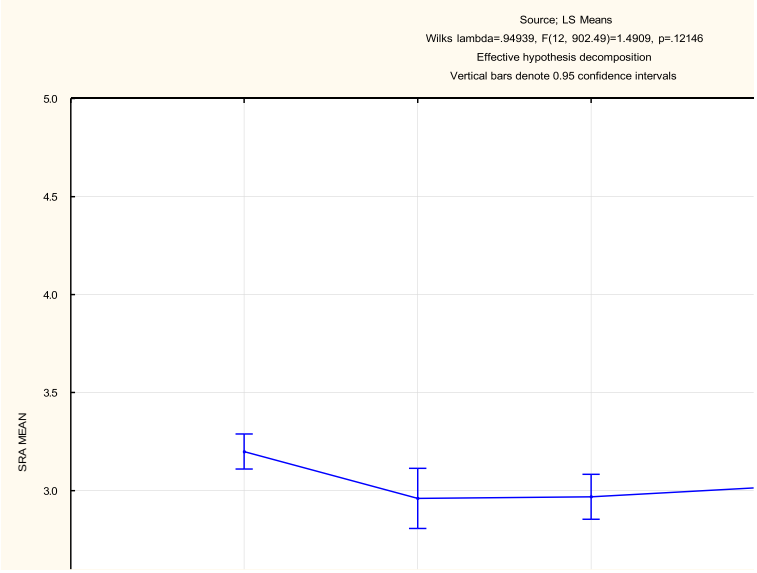


Figure 3.10. Source and Altruism

In comparison to other sources, it was found that the respondents who have a combination of information sources when donating have higher altruistic behavior compared to other source groups. However, it is shown in figure 3.9 that there are almost no differences between the groups with an effect size of 0.036536.

DISCUSSION

This study aims to explain factors underlying donor behavior particularly demographics, altruism, and empathy among Filipino donor-participants who have been donating during the pandemic. After analyzing data from 348 respondents, the researchers have answered the questions that were formulated during the study.

Past literature argued that women are more likely to showcase altruism compared to men (Andreoni et al., 2015) however, there were more male donor-respondents compared to females in the National Capital Region, Philippines. Most of these donor- respondents come from the adolescent group (ages 18-22 years old), are students, and are earning less than PHP 7, 890.00 confirming past literature that have argued that younger participants with lower income tend to participate more in donation activities.

In terms of age, individuals who belong to the early adulthood (23-39 years old) classification was found to have higher donor behavior compared to other groups, contradicting past literature that states that younger individuals have higher donation behavior. Males also have a higher donation behavior compared to females in contrast to Van Rijn and colleagues' (2019) study where they have found that females have higher tendencies in donating. Self-employed individuals were also found to be donating more compared to private employed, students, and government employed donors. Individuals who are also earning PHP 78,900-PHP 118,350 per month was also found to be donating more compared to other classes with higher and lower income. Donor-respondents who get their information from newspapers have a higher donation intention compared to those who utilize other sources such as social media, television, and peers. However, it was found that the presented independent variables of demographics, source, empathy, and altruism are not significant predictors of donor behavior in the Philippines, specifically in the National Capital Region. After analyzing the variables using ANOVA and regression, it was found that these variables are not predictor of donor behavior in contrast to past literature in other contexts.

In the analysis of the differences between the variables when grouped according to demographics and source, the results yielded no significant difference. Past literature have argued that in prediction of donor behavior, the presented variables of demographics, source, empathy, and altruism are significant predictors, however in this study these variables are not and that these may depend on the context of where the donation behavior is intended. Empathy and altruism may be present in these individuals, but the researchers considered that these individuals might have gone through the same situations as the receivers of donation during the peak of the pandemic.

Conclusions

The researchers have found that demographics such as age, sex, and income impact the likeliness of donor behavior in an individual. Contrary to past literature or studies of van Esch et al., (2021), (Verhaert & Van den Poel, 2011), and (Y. K. Lee & Chang, 2007), empathy was found to be a non-predictor of donor behavior among Filipino donors. Same with empathy, altruism as an independent variable shows that it does not predict or has no significant relationship towards donor behavior, which are opposed to

the past studies made by Green & Schneider, (2018), Andreoni et al., (2015), and Grueter et al., (2016). These two independent variables (empathy and altruism) are not evident towards donor behavior within the context of Philippines. External environmental factors were also found to have no impact on the donor behavior of donors.

The researchers conclude that, although the results of their study showed that altruism and empathy has no significant relationship towards donor behavior, this study still confirms that the theory of warm glow (which has argued that an individual feels a higher level of satisfaction or feels a sense of joy whenever they get to do actions that are altruistic in nature, in the context of this study, donations) is still present since there are still people who gives with an altruistic behavior. However the researchers note that the existing altruistic and empathic behavior among donor-respondents are different from those of the Western context and the motivational factors of donation behavior can not solely be based from the variables presented in the literature due to cultural differences. Surprisingly, there are still altruistic individuals despite the difficulty of surviving during the crisis since it was confirmed people still want to help other individuals who are under the poverty line (e.g. doing community pantries). Past literature has discussed that altruistic behavior will go hand in hand with empathy, however based on the results, this was not the case in the context of Filipinos.

The researchers also conclude, although still open for discussion and further research, that the low relationship between empathy and donor behavior may have stemmed from the fact that all individuals have gone through the same hardships during the course of the pandemic. With these results, it is safe to say that this theory of Warm Glow is still present, but not within the Philippine context, as well within the COVID-19 pandemic.

Recommendations

Through these results, researchers would be able to know how different factors have affected the donation behavior of Filipinos under circumstances such as the pandemic and how a crisis affects both their altruism and empathy. This would also help future researchers of the same field to accurately determine the factors that may impact the altruistic and empathic behavior of Filipino individuals.

The researchers would also like to note that the participants in this study, specifically the type of donation that the donor-participants did were only limited to charitable donors who donate using money or in-kind donations. The researchers recommend those with the same interest of study to explore the other types of donors which can include blood donors, organ donors, and such.

The data in this study were gathered via online platforms including Facebook and emails. The researchers recommend that future researchers who would like to expand or elaborate this study to gather data via face-to-face sessions. The researchers would also recommend exploring genders as this study was limited to males and females.

Compliance with Ethical Standards

The researchers dealt with individuals who have experiences in donating in different charitable organizations and strict procedures were observed during the collection of data. The researchers have provided the participants with informed consent stating their participation is fully voluntary and that they are given the option to stop answering the interview questions when they would feel uncomfortable, or they feel like stopping at any moment. The participants were also ensured that they would remain anonymous and all answers that were provided were strictly confidential. The data provided by the participants are used strictly for this research.

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WHEN SOME THINGS ARE MISSING: GAPS OF INTERPERSONAL COMMUNICATION IN GOOGLE CLASSROOM

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ABSTRACT

This study looks into Google Classroom's interpersonal communication gaps between the educator and the students. The study's specific objectives are to: recognize the medium, establish the interface, evaluate the caliber of instruction, and develop E.M.- based standards for interpersonal contact in the Google Classroom, Martin Fishbein and Icek Ajzen's Theory of Reasoned Action, which serves as a sub theory and is supported by Rogers' Diffusion of Innovation Theory. The results show that there is a communication gap between the teacher and the students in Google Classroom. The following suggestions are made based on the summary of findings: investigate how the medium is identified in the teaching and learning process in virtual classrooms as a gap in relationships; look into how the interface is determined and how it functions as a barrier to or gap in interpersonal communication; evaluate the caliber of instruction and how it affects students' learning in virtual classrooms as a gap in interpersonal communication; and the action plan may focus on medium identification, interface determination, quality of education and its impact to students learning.

Keywords: *gaps, Google Classroom, interface, interpersonal communication, medium*

INTRODUCTION

Online education is quickly becoming one of the most affordable methods for educating the world's fastest-growing workforce (Messman, 2021).

The educational landscape is permanently changed when the COVID-19 outbreak spreads across the globe. Public and private educational institutions searched for the most effective and efficient Learning Management System (LMS) to satisfy the needs of the students. Since education is provided online by faculty and occurs the manner of real- time (synchronous) and at all times (asynchronous) interactions, this led to the use of social media systems and virtual reality in distance learning. However, difficulties arise from a lack of time and resources to adequately prepare for online education. Many institutions of higher learning are still searching for a low-cost, simple-to-use learning management system (LMS) to assist them in addressing the nation's current online education problems.

As the COVID-19 pandemic propagates across the globe, the Google Classroom is a type of learning management system (LMS) that aims to make the creation, distribution, and evaluation of assignments along with that include students in distance education easier. Google Classroom is a free service designed to let students and teachers communicate, collaborate, manage assignments, go electronic format, and much more. It was added as a feature to Google Apps for Education on August 12, 2014, after becoming generally accessible (Flynn and Lutz). Google Classroom uses a modest quantity of data and does not demand powerful technology. As a virtual reality tool, this platform can therefore be of considerable assistance to the academic community in addressing the difficulties associated with online education in the Philippines.

A worthwhile and efficient teaching and learning process requires interpersonal contact (Jouany & Martic, 2020). The most important need is that a message be there, transmitted by the sender, and received by the recipient. However, interpersonal communication gaps were a struggle for both students and teachers. Teachers made every effort to get in touch with and find kids they did not even know. The pupils were worried that the teachers would get in touch with them and add them to a class of strangers where interpersonal communication problems could prevent them from studying well (Harappa Diaries, 2021). Even the Commission on Higher degree provided flexible learning options, but some courses demand online or in-person instruction to receive a decent degree.

Thus, this study investigates the gaps of interpersonal communication between the teacher and the students in Google Classroom by considering medium, interface and quality of education as sub-problems of the study. Drawing inferences from empirical evidences is done to demonstrate understanding of the problems under study. Finally, a guideline in interpersonal communication in Google Classroom is crafted.

METHODOLOGY

Discourse analysis is one of the qualitative techniques used in this study. The qualitative method analyzes the meanings developed through language use in interpersonal interaction, the settings and procedures of these ideas and practices, rather than using numerical analysis. Discourse analysis is a technique for examining the use of language in the context of its social setting and tries to comprehend how language is utilized in everyday situations. Specifically, this study investigates the gaps in interpersonal communication between the teacher and the students in Google Classroom using medium, interface and quality of education guided by E.M. Rogers' Diffusion of Innovation Theory that stands as the main theory and supported by the sub-theories of Martin Fishbein and Icek Ajzen's Theory of Reasoned Action, Edward Giles' Communication Accommodation Theory, and Jesse Delia's Constructivism Theory.

The main source of data is from the archive of an assistant professor in a state college in the Philippines in which the Google Classroom was used as a teacher and as a student. The secondary sources of data include magazines, newspapers, books and internet.

In response to the three sub-problems raised in the study; the procedure of investigation follows three phases: Phase 1. Medium Identification, Phase 2. Interface Determine, and Phase 3. Quality of Education Analysis.

Phase 1. Medium Identification.

This phase identifies the medium of learning used in the teaching and learning process with Google Classroom as the virtual platform to identify the gaps of interpersonal communication by John Wallen.

Table 1. Medium.

Medium Used	Teaching and Learning Process	Gaps of Interpersonal Communication
Lecture		
Video		
Power point Presentation		
Literary Criticism		

Phase 2. Interface Determination.

This phase establishes the interface utilized during the method of delivery of education by instructor in the Google Classroom as a prerequisite for submissions from the students in order to find the gaps in interpersonal interaction and the interface used, such as cognitive artifacts, the instructional materials in the educational setting, and the occasions for learning, using John Wallen's model.

Table 2. Interface.

Interface	Requirements for Submission	Gaps of Interpersonal Communication
Cognitive artifacts		
Resources for learning		
Occasion for learning		

Phase 3. Quality of Education Analysis.

This phase analyzes the quality of education making use of student's outputs and submissions in the Google Classroom to identify the gaps of interpersonal communication in a paragraph discourse analysis.

Data Analysis

This study investigates the gaps in interpersonal communication between the teacher and the students in Google Classroom using medium, interface and quality of education guided by E.M. Rogers' Diffusion of Innovation Theory that stands as the main theory and supported by the sub-theories of Martin Fishbein and Icek Ajzen's Theory of Reasoned Action, Edward Giles' Communication Accommodation Theory, and Jesse Delia's Constructivism Theory. Phase 1 of the learning process involves choosing the learning medium, which can be visual, tactile, aural, or a combination of these, to be used in the course of instruction and learning using Google Classroom as the online platform. Phase 2 involves choosing the interface to be used, such as cognitive artifacts, learning resources in the educational setting, and occasions for learning in the method of delivery of teaching by instructor in the Google Classroom as well as the student' participation requirements. Phase 3 is the analysis of the quality of education making use of student's outputs and submissions in the Google Classroom to identify the gaps of interpersonal communication in a paragraph discourse analysis.

Ethical Considerations

The study is purely discourse analysis of a Google Classroom archive of an assistant professor in a state college in the Philippines. The participant as the owner of the account is fully aware that the discourses are used only for research purposes and not to be disclosed publicly, the anonymity is maintained and informed consent is obtained. The participant is also free to withdraw from the study anytime, the well-being is safeguarded and there is no conflict of interest that exist in the study. Most of all, the study strictly avoided plagiarism and there is no bias in the interpretation of the findings.

RESULTS AND DISCUSSION

Medium Identification

Table 1 shows the identification on the medium of learning used in the teaching and learning process with Google Classroom as the virtual platform to identify the gaps of interpersonal communication by John Wallen.

Table 1. Medium Identification Analysis

Medium Used	Teaching and Learning Process	Gaps of Interpersonal Communication
Lecture	Assigned Report (individual and/or group)	Intention
Video	Oral/Speaking Requirements	Action
Power point Presentation	Reporting/Lecture Presentation	Intention
Literary Criticism	Final Exam Requirement	Impact

The table identifies the medium of learning used in the teaching and learning process with Google Classroom as the virtual platform to identify the gaps of interpersonal communication.

Google is a popular Web 2.0 tool that offers a variety of practical functions and applications. Like many other Web 2.0 apps, it has many possibilities for teaching and learning thanks to its unique built-in features that offer educational, social, and scientific affordances. 2014 saw the addition of Google Classroom as a new component of Google Apps for Education. The professors may quickly assign projects, provide feedback, and engage with the students in this classroom (Flynn and Lutz).

Google Classroom can accommodate different medium which the teacher prefers depending on the course assigned which can make the teaching and learning process easier but still there are gaps in interpersonal communication such as intention, action and impact that need consideration.

Intention is very clear when the teacher explains the rubrics and criteria to be used in the delivery of assigned topics for the reporting which is individual or by group as well as the use of power point presentation as aid in the lecture and oral presentation for the students to follow and comply. However, due to intermittent to slow internet connection students will not be able to get and digest the proper way to make it and sometimes tend to have done it the other way around. Google Classroom is a useful tool for promoting efficient methods of instruction and learning due to its simplicity to utilize and intended function. Using the Classroom feature of Google as an intellectual/pedagogical tool for imparting knowledge and understanding how to evaluate data and related applications is the purpose of the program (Nizal, Shaharanee, Jamil, and Rodzi, 2014).

Action is manifested when a student is able to apply things and elements in the required video presentation as one of the outputs needed in a particular course as to what is asked as to guidelines, mechanics and rubrics. However, due to no gadget available some students cannot submit videos and teachers need to think of other things to comply that can suffice a video presentation, to do it face to face, live and personal but following the health protocols. The teacher's difficult tasks are to guarantee that pupils believe it is simple to use and that they are aware of its use in instruction. Google Classroom can be enhanced to become a portion shown/cognitive tool to assist in shifting the focus of the educational setting from one that is organized around teachers and handled to one that is student-centered and open to the purpose of discussion, examination, and imaginative thinking through the participation of students who are engaged individuals. "All channels have been evaluated as a way of interpersonal relationships," writes Palmer.

Impact is evident when a student is able to apply the learned information, skills and values needed in the completion of the final exam requirement. Somehow, students need samples to do what is asked when they cannot join the live discussion or are in and out of the virtual discussion due to intermittent to slow internet connection, the need for hard copies to those with no gadgets and preferred the printed modules and influx of private messages, chats and even emails on the elaboration of the requirement to do. These gaps are simply noticeable especially in this technology aid learning that underprivileged students cannot cope with.

Virtual Reality (VR) communication, according to S. R. Ellis (2018), is a media that uses virtual settings to depict communication. It is expected to become the next dominating medium, if not the final one. Due to the notion of a technology for communications typically assumes that two or more people are participating, the terms "communication" and a "medium ought to only be applied in the context of shared VR. Interpersonal communication, according to Stasser (2018), is the process through which an ensemble of social actors in a particular circumstance negotiates the significance of the numerous situations that develop between them. If it is true that interaction between individuals is a method of negotiation, eventually this definition has important ramifications: (1) the only way to understand is by evaluating the subjects who engage in a manner in which the social environment whereby the interaction with virtual reality occurs plays a vital part; and (2) new procedures and operations will emerge during relationship that compromise and adapt the initial connection between subject matter and the context. In other words, whether or not they are proficient computer users, individuals act autonomously and have their own motivations, and it is up to computers and systems to adapt to people rather than the other way around.

The gaps in interpersonal communication found in medium identification are intention, action and impact.

Interface Determination

Table 2 determines the interface used to identify the gaps in interpersonal communication and the interface used, such as cognitive artifacts, the resources for

learning in the learning environment, and the occasion for studying in the method of education by the teacher in the Google Classroom as student's expectations for submissions.

Table 2. Interface Determination Analysis

Interface	Requirements for Submission	Gaps of Interpersonal Communication
Cognitive artifacts	Essays (Reflection and Reaction Paper)	Intention
Resources for learning	Online Materials such as Videos, Movies, E-books	Impact
Occasion for learning	Midterm, Final Exam	Action

Table 2 determines the interface used in the delivery of instruction by the teacher in the Google Classroom as student's requirements for submissions to identify the gaps in interpersonal communication and the interface used such as cognitive artifacts, the resources for learning in the learning environment and occasion for learning in the delivery of instruction by the teacher in the Google Classroom as student's requirements for submissions.

Application Programming Interface (API), which comprises a collection of definitions and protocols for development and integration of application software, is a feature of Google Classroom. Using the API, G Suite for Education domain administrators may link student information systems with Classroom, systematically provision steps on behalf of teachers, and gain a basic understanding of the classes being taught in the domain. To link apps with Classroom, creators of applications may utilize the Classroom API. To ask teachers for permission to access classes and rosters, the apps must use OAuth 2.0. Administrators have stated that students and educators within the domain are not permitted to grant applications accessibility to Google Classroom data. Website administrators and content producers can help learners and educators share materials back to Classroom by using the share button. All API and share button connections should adhere to the class brand rules. The various types of entities in the Classroom API serve as representations for the courses, teachers, and students on the interface. In addition to the attributes seen in Classroom, some of these things also have extra properties that are exclusive to the API. According to the Google Classroom API, the main entity types include classes, disguises, invitations, learners, instructors, profiles of users, instruction, topics, and student responses (Google Classroom API).

Intention is seen as an imbalance in communication among cognitive artifacts, especially in essay writing (reflection and response papers), when students will just look up online resources to submit in the belief that the teacher in charge of the assignment won't catch them. Writing is one of the tedious skills in a literature and communication courses however the students tend to forget that there is also plagiarism scanner application that will detect if it is copied or original. The intention was purely to train students to write good composition and articles but it was not achieved due to easy ways

to operate the internet nowadays. Sometimes students will only ask from their classmates the article and just change the font size, even the layout then automatically turn in as submission in the Google Classroom. According to Augustine and Abraham (2021), which measured students' communication ability levels in Google Classroom, those levels increased and were noticeably higher as an outcome of the tutorials on how to use Google Classroom. However, there were no appreciable gender differences in the students' Google Classroom interpersonal levels.

Impact is apparent as a gap in interpersonal communication in the resources for learning specifically on the online materials used such as videos, movies, e-books. The materials should be watched and studied by the teacher before giving that to the students, upload as attachment in the Google Classroom and explained why the materials are needed as part of the course requirements. Google Classroom is one of the applications that is a "instant success" for educators and learners alike, although it challenges with a UI that feels somewhat "clunky." Google Classroom lets teachers organize the digital learning. It tends to improve teaching effectiveness as well as the efficiency of the preparation of lessons. There are instances that students cannot open the uploaded materials due to intermittent to slow internet connectivity and there is no gadget to be used. Others have the gadget and the resources but needs to be mentored on how to use although proper orientation was done already before the opening of classes. But implementing Google Classroom encourages teachers to use a wide range of resources and tasks rather than adhering to a "all are welcome" philosophy, which supports students' learning (Johnson, 2021).

Action is evident in the application of the learnings and skills as proven during midterm and final examination as requirements/culminating activity for the semester's duration. The teacher can give a synchronous or asynchronous examination for the students to do and comply depending on the nature of the course enrolled. However, action is subject to the availability of resources on the part of the students. Interface has something to do with the operation and many of my students have no gadgets to use for online class and they prefer printed module. Although they lack the resources to do so, there is interest in learning how to game the system. This is demonstrated by a study by Ruben et al. (2021), which found that those who used technology more actively (by publishing information, for example) felt that their nonverbal decoding skills were greater, despite performing worse on objective tests of decoding ability. On objective tests of nonverbal decoding ability, however, passive users fared noticeably better, suggesting a possible road map for exploring the connection between usage of technology and interpersonal communication abilities.

According to Biocca and Delaney (2013), a communication interface is a connection between physical media, software, and information and the user's perceptual channels. According to Kay, creating the delusion is the same as creating the interface because it is the relationship between what the consumer sees on the display and what they believe they are manipulating (or, to put it another way, between what the consumers visualizes as well as the user's inner model of action). In essence, the interface consists of the user's "mental image" of the operating system and the machine's "understanding"

of the consumer in equal measure to its physical and visual manifestations. As a result, the interface can be thought of as the expressive space where the consumer and designer collide (Laurel). As a result, what the agent does appears to be "real" since both the user and the creator are in agreement about the "truth" of the depiction it embodies.

Intention, action and impact are the gaps in interpersonal communication found in interface determination.

Quality of Education Analysis

This is an analysis on the quality of education making use of student's outputs and submissions in the Google Classroom to identify the gaps of interpersonal communication in a paragraph discourse analysis.

The quality of education, particularly the caliber of the students' supplied outputs, projects, performance tasks, and assessment criteria, is one of the challenges that has shaken academia throughout this epidemic. With so many alternatives to pick from and everything available with a single click, the internet offers all that is needed for the various courses. However, technology also has the best applications to combat plagiarism of anything simply copied and detects the sources online to validate and verify the works and submissions of students. Still the teacher has the final decision in a student's submission once proven to be a product of cheating. Students are still worried about their marks and the quality of their papers during this pandemic, just as they were during in person orientation. The time limit is the only distinction. The majority of instructors don't set submission deadlines so that students don't have to worry about them, can manage their schedules with other classes they are taking, and can take responsibility for their mental well-being while coping with the contagious and dangerous illness that is a serious health issue.

According to a study by Freeman and Acena (2021), developing interpersonal connections in a more subtle, immersive, and embodied manner may be facilitated by innovative and original social interaction venues that provide expensive-fidelity and multifaceted physical presence. By offering light on how individuals meet, communicate, and build connections with others in comparison to other types of mediums, the study helps us comprehend mediated encounters that are interactive.

Intention plays a crucial role in the students' lives especially in communication. There is an intention to continue studying however due to economic status, students cannot support the needs and demands of the education process vis-à-vis the pandemic hits hard. Ambition is remarkable but is difficult to achieve especially with the challenges and requirements of the courses enrolled as to the nature of the subjects. However, there are students who excelled in classes with remarkable skills and talents shown by overwhelming efforts in the submissions, still quality of education is attained even at a very challenging time. The students exhibit good grades as stipulated in the grades in the Google Classroom even to uploaded grades in the portal. Thus, if there is a will, there is a way to attain quality education even in a challenging time of pandemic.

Action is shown in collaboration and efforts exerted in the outputs submitted and turned in the Google Classroom. It can be seen in the number of turned in outputs as submissions in the Google Classroom. The teacher is not indicating the deadline of submission for consideration purposes to those with intermittent to slow internet connectivity. Students' actions are manifested in early submissions as well as the quality of outputs submitted. The teacher can easily locate students with missing submissions and contact directly the concerned for reminder purposes. A day ahead the scheduled time for submission, a student receives an email reminding them to submit the required output and to dismiss it once it has been submitted and there is no new work due. However, during the wake of the global epidemic, the deadline was disregarded in favor of meeting all of the students' needs. Due to the lack of a device or an internet connection in their location, some students actually called the instructor for interactive lessons.

Impact is manifested in the engagement through the student's effort rendered and consistency exerted to the different requirements of the course as to their grade. In terms of grading the submissions in the Google Classroom, students are made aware of the guidelines, mechanics and rubrics to be used in the giving of grades. The students also receive notification of the scores from the teachers through email and that will also appear in the Google Classroom. The teacher can also send a private message to the student as comments and reactions to the submission as well as suggestions and recommendations for the improvement of the work.

Google Classroom enhances the way teachers and students collaborate to deliver high-quality instruction by: (1) raising the level of instructor-learner engagement; (2) streamlining and organizing the classroom; and (3) facilitating learner-educator interaction and cooperation. Google Classroom gives teachers more flexibility to create engaging, interactive classes. Teachers can design assignments that incorporate an engaging YouTube video, a virtual game, or a visually appealing slideshow packed with useful data and photos. Google Classroom engages today's tech-savvy students by making learning enjoyable. Anywhere, at any time, teachers can access student work. On-the-go grade. Having access to every one of the students' assignments and grades is possible from any location at any time using a computer, tablet device, or phone. By offering a single location for assignments, ratings, and announcements, Google Classroom also aids with organization. Everything is simple to locate. All of the completed homework is kept in the Classroom Drive folders and are easily accessible, making it much simpler to find a specific student's work. Teachers may quickly arrange announcements and seek questions. Simply post a message or question on the class stream, and students who log in at the earliest opportunity will see it. Apps for conference calls via video, like Google Meet, make it easier for parents, students, and teachers to communicate from the comfort of their homes or places of business. Video conferencing can come to the rescue if the teacher and pupils are unable to interact in person by hosting virtual parents' conferences, live courses, or a Q&A session (Lynch, 2020).

The interpersonal gap found in the quality of education analysis are intention in communication, action in collaboration and impact in engagement.

A Guideline in Interpersonal Communication in Google Classroom

This guideline helps the teachers and students using Google Classroom as the protocol in the teaching and learning process.

1. **Be respectful.** Respect begets respect. Respect your teacher and your classmates. Put yourself in their shoes. Respect each other's bandwidth.
2. **Be punctual.** Be in the virtual room 5 minutes before the scheduled time whether synchronous or asynchronous.
3. **Be humble.** Accept criticisms, comments, suggestions and recommendations about your submitted outputs for your growth and development.
4. **Be honest.** Tell your teacher the status of your internet connection and signal as your delayed submissions.
5. **Be openminded.** Tell what is in your mind. Ask questions. Tell your story to be understood. Everything is understandable if granted.
6. **Be teachable.** Listen to others because you do not know everything and they too have their stories to tell.
7. **Be kind.** Be always ready to do whatever is asked. Give what you can and do what you can do. It is free but it pays.
8. **Be helpful.** Be always willing to help your struggling classmates about the subject. No man is an island.
9. **Be thankful.** Show gratefulness for the space for learning, the time spent with the teacher and your classmates.
10. **Be yourself.** Be confident in yourself. Trust yourself that you can do.

A ten-guideline list is offered to be used in the teaching and learning process in the Google Classroom.

CONCLUSIONS AND RECOMMENDATIONS

This study investigates the gaps of interpersonal communication between the teacher and the students in Google Classroom by considering medium, interface and quality of education as sub-problems of the study. Drawing inferences from empirical evidences is done to demonstrate understanding of the problems under study. Finally, a guideline in interpersonal communication in Google Classroom is crafted.

The salient findings of the study are: the gaps in interpersonal communication found in medium identification are intention, action and impact; intention, action and impact are the gaps in interpersonal communication found in interface determination; the interpersonal gaps found in the quality of education analysis are intention in communication, action in collaboration and impact in engagement and a ten-guideline list is offered to be used in the teaching and learning process in the Google Classroom.

The study is a mirror to teachers that there are things uncontrollable specifically interpersonal communication in the Google Classroom even in other educational platforms that needs attention and to be addressed properly because it might hinder teaching effectiveness and learning on the part of the students. Also, it affects the quality

of education as reflected in the academic performance. Teachers should verify the ability of the students to manipulate the interface as a medium of instruction and most importantly the accessibility to wireless fidelity (wi-fi) in the locality.

Google Classroom is a student-friendly application and is accessible even in weak signal and internet connectivity. It is really designed to be such but things there are students who are shy and not confident enough to confide what they are going through in life. Also, with the rampant use of Google application, the teacher needs to be vigilant in the submitted original outputs and just verbatimly copied from online sources.

This study is a reminder that teacher's job is to make the students feel at home in a particular subject even in an online classroom and a smooth communication is assured and insured for better and meaningful teaching and learning process. For future sake, medium identification may be explored in the teaching and learning process in the virtual classrooms as a gap in interpersonal communication; interface determination/operation may be investigated as hindrance/gap in interpersonal communication in virtual classrooms; quality of education may be analyzed and its impact to students learning in virtual classrooms as a gap in interpersonal communication; and an action plan may be crafted to focus on medium identification, interface determination, quality of education and its impact to students learning.

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