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Table of Contents

		Page
1	**Work-life Balance, Self-Determination, and Psychological Well-being Among Police Personnel** *Hernan M. Papagayo*	6
2	**Antimicrobial Activity of *Coffea liberica* (Liberian Coffee) in Different Roasting Intensities and Varying Extract Concentrations against *Staphylococcus aureus* and *Escherichia coli*** *Rodmie Oliver E. Pumaras, Daniela D. Badong, Antoinette Mikaela S. Cruz, Karmela G. Coros, Maia Viktoria V. Infiesto, Jewel Joyce H. Mojica, Jullien Yvin B. Paulino*	24
3	**Factors Causing Delays Between Surgeries in a Government Medical Center: A Cross-Sectional Study** *Philner P. Salindo, Philmed P. Salindo*	32
4	**English Teachers' Grammar Approaches and Grade 8 Students' Grammar Skills in Cluster 7 in the Division of Santa Rosa** *Maricel G. Saluta*	40
5	**Behind the Badge: Lived Experience of Drug Enforcement Agents in Law Enforcement** *Philner P. Salindo, Orlando R. Bantolinao, Jr., Richard B. Osumo, Miñerva M. Lariosa, Dominic M. Lariosa*	54
6	**Effectiveness of Acceptance and Commitment Therapy (ACT) On Alleviating Depression Symptoms: A Longitudinal-Naturalistic Study** *Bernadeth B. Boco*	65
7	**Citizens' Awareness and Dissemination of Local Government Unit (LGU) Processes in General Santos City** *Omairah M. Barangai*	75
8	**Suicide Prevention Mechanism Survey: Basis for Mental Health Intervention Program** *Ryan C. Tura, Marian C. Cadorna*	81
9	**Lived Experiences of University Students with Limited Internet Connectivity in Online Distance Learning** *Christian S. Francisco, James R. Pedrera, Mary Ann C. Madalina*	93
10	**Utilization of Web-based Laboratory in Expressing Chemical Concentrations** *Harley E. Partosa, Antonia Gueyndoline B. Despojo, Maria Chona Z. Futalan*	110

11	**Exploring Ecological Consciousness: An Ecocritical Analysis of Marjorie Evasco's Poetry through Commoner's Ecological Laws** *Eileen Joy D. Sarita*	121
12	**Nursing Students' Readiness, Attitude, and Performance in Face-to-Face Classes** *Noreen Kaye B. Balo*	137
13	**Out-of-Field Teachers' Professional Resilience: A Grounded Study** *John Mark N. Saldivar*	144
14	**Assessing Pedagogical Approaches in Bachelor of Elementary Education: A Focus on Practical Outcomes** *Maria Victoria R. Santiago*	153
15	**Online Professional Learning Networks (OPLNs) Integrated to the Community of Inquiry (CoI) Model: Basis for Professional Development for Teachers** *Lovirey M. Cerna*	163
16	**Life Goals and Coping of Elderly Women Living in Poverty** *Armina B. Mangaoil, Rizandrea Judela M. Ramos, Teresita T. Rungduin, Tito C. Baclagan, Maria Luz V. Rantael*	180
17	**Nepotism and Employee Innovation: The Mediating Role of Perceived Fairness and the Moderating Role of Organizational Transparency** *Darwin D. Diola, Anderson Ray C. Arcadio*	192
18	**Concurrent Evaluation of Alternative Learning System (ALS) Program Implementation in Public Island School: Basis for Program Enhancement** *Bernardo R. Morte Jr.*	198
19	**Integrating Gonen's Poetry Teaching Framework to Enhance Language Learning Competencies in Senior High School Students** *Shekaina Marie M. Castillo*	204
20	**Exploring the Role of Harmonized Gender and Development Guidelines (HGDG) in Promoting Gender Sensitivity in Classroom Practices among Educators** *Syrenzo R. Sicuan*	210

Table of Contents

		Page
21	**Compliance with Business Permits and Licensing System Requirements: Effects on Business Performance and Satisfaction Among MSMEs** *Ace Gerome M. Niño, Francisco E. Gentoral*	220
22	**Bridging the Skills Gap: Examining the Electronics Technology Students' Competence and Industry Demands** *Ralph Jerico P. Abides*	232
23	**Metacognitive Awareness and Research Skills Among Senior High School Students** *Jovellano V. Ontog*	239
24	**A Content Analysis on TripAdvisor Reviews of Customer Satisfaction in a Buffet Restaurant** *Alfred O. Bauya, Rowell R. Paras*	247
25	**Statistical Test Proficiency and Data Analysis Literacy through Statistical Package for the Social Sciences (SPSS) Workshop** *Jay A. Delideli*	254
26	**The Lived Experiences of Alternative Learning System Teachers in English Literacy Instruction** *Jonathan P. Francisco, Crisanta C. Buri*	265
27	**Gendered Language in Philippine Newspapers** *Almar J. Java*	280
28	**Moderating Effect of Demographic Profile on Employee Engagement and Productivity** *Maria Regina C. Belostrino, Renalyn C. Estiller*	288
29	**Assessing the Implementation of Republic Act 9184 in the Procurement Stages of Fishery Post-Harvest Infrastructure Facilities in the Philippines** *John Ray G. Dante, Guillermo O. Bernabe*	299
30	**From Theory to Practice: The Impact of Communities of Practice Implementation on Out-Of-School Youth** *Alfred P. Pantaleon, Chester Allan F. Bautista, ZJ G. Villanueva, Tricia L. Gundran, Arrianne Michelle F. Fabro*	314

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Work-life Balance, Self-Determination, and Psychological Well-being Among Police Personnel

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Abstract. Police personnel confronted a variety of challenges. This influenced their psychological well-being, which is crucial in their sound decision-making and judgment while fulfilling their duties. Aside from that, their imbalanced personal and professional lives, as well as compromised self-determination, also contributed to their psychological well-being negatively. This study sought to determine work-life balance, self-determination, and psychological well-being among police personnel in the Manila police district. The descriptive-correlational research design was used in the study, which involved stratified random sampling and g-power to 2,520 personnel designated as station commanders, patrol officers, investigators, and administrative staff, including males and females, to obtain 210 personnel who participated. The main data source for this study was a modified and validated questionnaire. Pearson product correlation coefficient was used to determine the significant relationship between the level of work-life balance to psychological well-being and self-determination to psychological well-being. Four- and six-point Likert scale, mean with interpretation, and linear regression analysis were used to obtain the study's findings. The findings showed that the level of work-life balance in stress management, self-management, and time management was high, and change management was very high. In contrast, the level of self-determination in terms of autonomy was high, including competence and relatedness, was very high. Lastly, the level of psychological well-being in self-acceptance, positive relations with others, environmental mastery, and personal growth was very high. In contrast, purpose in life and autonomy were high. There is a significant relationship between work-life balance, psychological well-being, self-determination, and psychological well-being among uniformed personnel in the Manila police district. Meanwhile, the impact of work-life balance on psychological well-being and self-determination to psychological well-being was significant. This study emphasized the need for an enhancement plan for PNP MC 2021-115: PNP Mental Health program "Bantay Kaisipan."

Keywords: Police personnel; PNP; Psychological well-being; Self-determination; Work-life balance.

1.0 Introduction

Achieving an equilibrium between personal and professional lives and fostering self-determination is crucial for enhancing psychological well-being and work motivation. This balance involves efficiently allocating time and energy, prioritizing tasks, and maintaining boundaries. Neglecting to attain this balance can result in burnout, decreased motivation, and compromised overall well-being. In communities, individuals encounter a variety of people and circumstances. Some individuals offer help, while some resort to crime to survive. Violence may break out, resulting in conflict. Acknowledging the unpredictability of such situations, the government supports communities by empowering law enforcement. This ensures that citizens are prepared to prevent and respond to criminal activity, investigate crimes, and enforce laws to protect citizens' rights and well-being.

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As uniformed personnel of the PNP, they confront numerous challenges as part of law enforcement. These include balancing security and civil liberties, managing changing shifts, navigating a hierarchical structure and stringent rules, dealing with an inconsistent legal system, and keeping up with technological advancements that impact crime and policing. Police officers were often among the first responders to significant emergencies, such as terrorist attacks, natural disasters, and traumatic incidents, which pose substantial risks of physical and psychological injury (Drew & Martin, 2020). Given these challenges, police officers are impacted negatively by operational stress due to repeated exposure to tragic events and immense human suffering. This stress was compounded by external demands such as public scrutiny, constantly being on duty, missing important family gatherings, and struggling with work-family balance (Sousa et al., 2023). These factors can lead to physical, mental, and emotional fatigue, affecting their work-life balance, self-determination, and psychological well-being, which are crucial in their job as public servants.

Work-life balance refers to the equilibrium between an individual's professional and personal lives. When individuals prioritize one aspect over the other, it can disrupt this balance, negatively affecting their health, motivation, and well-being, which potentially leads to burnout and high turnover rates (Alqahtani (2020). This dispute is particularly relevant for PNP uniformed personnel, who may confront challenges in maintaining balance due to the demands of their job. Their commitment to serving the public often involves sacrificing personal health and family time, which can impact their happiness and well-being. Simultaneously, work-life balance requires significant inner strength to deal with challenges from both personal and professional lives, which in turn impacts performance (Guleria, 2023). Being self-determined by the PNP uniformed personnel was an essential factor in their acquisition of satisfying lives, improvement of mental health, and effective service and protection of the community.

Furthermore, police officers' stress, along with coping techniques and overall well-being, significantly affects their life satisfaction. Implementing job stress intervention was vital to reduce distress and support healthy coping mechanisms for handling both routine and critical situations in their roles as public servants (Ryu et al., 2020). Based on that, just as important as good physical health for police personnel, good mental health had to be considered, as it was crucial for attaining effective performance during emergency circumstances and high-stress incidents. As a result, the researcher aimed to determine the level of work-life balance, self-determination, and psychological well-being and examine the relationships of work-life balance to psychological well-being and self-determination to psychological well-being among PNP uniformed personnel in the Manila Police District. The findings from variables were used to propose enhancements to PNP MC 2021-115: PNP Mental Health Program "Bantay Kaisipan" to help improve the performance of police personnel.

2.0 Methodology

2.1 Research Design

The study utilized a quantitative research approach, particularly a descriptive-correlational research design. Cresswell and Cresswell (2023) define quantitative research design as a method for evaluating theories by closely investigating the relationship between numerous variables. Subsequently, IvyPanda (2023) defined descriptive-correlational design as expressing the relationship of two or more variables and producing an analyzed feature of the information used in the study.

2.2 Research Locale

The study was conducted in the Manila Police District, where crime rates were much higher than in provinces. It applied to the job of PNP uniformed personnel, such as the role of station commanders, patrol officers, investigators, and administrative staff, which were not classified as first responders. However, patrol officers were part of it; they were still included as respondents to gather information regarding their work-life balance and self-determination. This decision was influenced by the fact that patrol officers were the first personnel who responded most to highly stressful incidents and emergencies, which affected their psychological well-being. In Lopez's article (2023) in the "Manila Standard" of the PNP Crime Information Reporting and Analysis System (CIRAS), the police force recorded a total of 32 031 index crimes from January 1 to October 31, 2023.

2.3 Research Participants

The total population of the study was based on the recapitulation of personnel in MPD, which comprised 14 station commanders, 2 356 patrol officers, 111 investigators, and 39 administrative staff, including males and females, with a total of 2 520 respondents. Meanwhile, the study used G-power with a .95 power size and stratified random sampling to obtain a sample size of 210 personnel, consisting of 2 station commanders, 196 patrol officers, 9 investigators, and 3 administrative staff who participated in the study.

2.4 Research Instrument

This study used an adapted, modified, and validated survey questionnaire as the main instrument and primary data source to answer the research questions. The Work-Life Balance Scale (Abiog, 2022), and Cronbach's Alpha Reliability Test were utilized to test the reliability of the items through pilot testing, which proved its outstanding internal consistency in terms of managing change with a score of .91, managing time with a score of .91, managing self with a score of .94, and managing stress with a score of .94 by using it on the 20 agency hired employees in PAGIBIG Fund, Basic Psychological Need Satisfaction at Work Scale Esperanza (2021), in general, had a weighted mean of 3.32 which was verbally interpreted as neither satisfied nor dissatisfied. It yielded a computed p-value of 0.401, higher than the 0.05 significance level. For the 42-item Psychological Well-being scale, the Kaiser-Meyer Olkin Adequacy (KMO) was used also and obtained .874, indicating the sample was adequate, and factor analysis was significant ($k<0.01$). Good KMO values were above 0.8 (Brace et al. 2006, as cited by Alias et al. 2020). This study adhered to ethical guidelines, and participation was voluntary. To ensure the validity of the instruments, several steps were taken. First, academic assessment experts reviewed the adapted and modified questionnaires to confirm the study objectives were met. Second, a pilot test with a small sample of respondents was conducted to identify any ambiguities in question-wording and assess the clarity and comprehensiveness of the instruments.

2.5 Data Gathering Procedure

This study used specific steps to obtain data. First, permission to conduct the study was sought from the chief administrative division on the recommendation of the District Director of MPD. Second, the researcher introduced himself and explained the study's rationale and their rights concerning withdrawal, privacy, confidentiality, anonymity, and informed consent to the personnel-respondents who would fill out the questionnaires. Personnel were asked to evaluate their work-life balance, self-determination, and psychological well-being. Third, the researcher briefly explained to the personnel how each research questionnaire was completed and returned using an online application called Google Forms. Fourth, once all the respondents had answered and completed the research questionnaires, the researcher meticulously ensured the relevance and appropriateness of all gathered information. Lastly, the data obtained were synced to an Excel sheet. The collected data was promptly sent to reliable and competent specialists for statistical analysis.

2.6 Ethical Considerations

This research study adhered to ethical guidelines. The respondents' participation was voluntary. They were to dismiss themselves from the study at any point they felt uncomfortable by clicking end or by not clicking "submit"; their data was automatically deleted, and the incomplete data could not be utilized in the study. Their participation was protected from harm: physical, social, psychological, and other forms of harm. Personal data collected were accessed solely for educational purposes, ensuring strict confidentiality and privacy measures were upheld. Additionally, proper procedures for communicating results were strictly followed to prevent plagiarism and research misconduct.

3.0 Results and Discussion

3.1 Work-life Balance of PNP Uniformed Personnel

In terms of Stress Management

The PNP uniformed personnel's Stress Management was High (Agree, 3.21), as shown in Table 1. Furthermore, the "I do not easily get irritated and frustrated" indicator yielded the highest mean score of 3.31 and was interpreted as Strongly Agree or Very High. In contrast, the indicator "My self-esteem is not affected even if I make mistakes most of the time" received the lowest mean score of 3.08 and was interpreted as Agree or High.

Table 1. Descriptive statistics of the level of work-life balance of PNP uniformed personnel in terms of stress management

Indicators	Mean	Interpretation
1. I do not easily get irritated and frustrated.	3.31	Very high
2. My self-esteem is not affected even if I mistake most of the time.	3.08	High
3. I can manage my work performance even when I am affected by stress and anxiety.	3.25	Very high
4. I perform my work properly even when I feel fatigued.	3.18	High
Overall assessment	**3.21**	**High**

Legend: 3.25 – 4.00 = Very High, 2.50 – 3.24 = High, 1.75 – 2.49 = Low, 1.00 – 1.74 = Very Low

This implies that training and continuous guidance within the PNP, particularly in the Manila Police District, helps personnel develop maximum tolerance, enabling them to remain composed and resilient in various situations. However, their self-esteem cannot be unshakeable when they make mistakes most of the time due to public scrutiny. According to Tuttle et al. (2019), through stress management training and community-oriented programs, police officers' unique challenges in the line of duty, which led to compassion fatigue, moral injury, and burnout, could be mitigated and improved. In addition, as deduced by Tang and Li (2021), role stress could lead to burnout by decreasing perceptions of workplace support among newly hired social workers. As a result, improving the workplace support system was beneficial in mitigating role stress and burnout and supporting and boosting workers' morale.

In terms of Self-Management

The PNP uniformed personnel's Self-Management was High (Agree, 3.22), as provided in Table 2. The indicator "I plan and schedule my day-to-day activities" yielded the highest mean score of 3.35 and was interpreted as Strongly Agree or Very High. Further, the indicator "I have sufficient time to rest and relax" had the lowest mean score of 3.01, interpreted as Agree or High.

Table 2. Descriptive statistics of the level of work-life balance of PNP uniformed personnel in terms of self-management

Indicators	Mean	Interpretation
1. I have allotted time for self-development (e.g., exercise, studying).	3.26	Very high
2. I plan and schedule my day-to-day activities.	3.35	Very high
3. I have sufficient time to rest and relax.	3.01	High
4. I can engage in any activities that make me enjoy (e.g., sports).	3.28	Very high
Overall assessment	**3.22**	**High**

This indicates the instinctive readiness and constant preparedness of every PNP uniformed personnel in the Manila Police District to ensure their security in various circumstances they may encounter. However, this dedication to their duty can sometimes impede their ability to find sufficient time to rest and relax to catch up to the burden and responsibility as guardians of our community. The study by Wheeler et al. (2020) mentioned that gaining insight into oneself enhanced individuals' ability to engage more meaningfully in their responsibilities and meet work demands more efficiently, improving overall workplace performance.

In terms of Time Management

The PNP uniformed personnel's Time Management was High (Agree, 3.03), as provided in Table 3. "I meet the requirements of my work without extending long hours" yielded the highest mean score of 3.13 and was interpreted as Agree or High. Meanwhile, the indicator "I can spend family and social life without worrying about job responsibility" sustained the lowest mean score of 2.95, interpreted as Agree or High.

Table 3. Descriptive statistics of the level of work-life balance of PNP uniformed personnel in terms of time management

Indicators	Mean	Interpretation
1. I meet the requirements of my work without extending long hours.	3.13	High
2. My family time has not suffered even if I spend long hours.	2.99	High
3. I can spend my family and social life without worrying about job responsibilities.	2.95	High
4. I am allowed to work flexible working hours.	3.07	High
Overall assessment	**3.03**	**High**

This result suggests that the PNP uniformed personnel in the Manila Police District prioritize effective time management to maintain a healthy balance between their personal and professional lives. This entails efficiently handling their obligations, tasks, family commitments, and social engagements without compromising their equilibrium with one another. However, given the unpredictable nature of their job, characterized by unreliable

shifting schedules and on-call duties amidst adverse circumstances, they may find it challenging to fully disconnect from their responsibilities and relax even during family time or social interactions with friends and colleagues. As inferred by Kashyap (2024), effective time management entailed planning and consciously controlling the allocation of various activities, enabling individuals to work smarter and achieve better performance with efficient strategies that reduce effort.

In terms of Change Management

The PNP uniformed personnel's Change Management was Very High (Strongly Agree, 3.27), as provided in Table 4. Moreover, the indicator "I support positive behavior with my co-workers whenever changes occur" yielded the highest mean score of 3.39, interpreted as Strongly Agree or Very High. On the contrary, the indicator "I can adapt to frequent changes in schedule and tasking and does not affect the time for my family" had the lowest mean score of 3.16, interpreted as Agree or High.

Table 4. Descriptive statistics of the level of work-life balance of PNP uniformed personnel in terms of change management

Indicators	Mean	Interpretation
1. I can keep my cool when required to make many decisions.	3.29	Very high
2. I can adapt to frequent changes in schedule and tasking, and it does not affect the time for my family.	3.16	High
3. I can quickly adapt if there is a change in the workplace's management (e.g., New Chief and Policies).	3.35	Very high
4. I can meet my family's needs even under pressure for new changes at work.	3.19	High
5. I support positive behavior with my co-workers whenever changes occur.	3.39	Very high
Overall assessment	**3.27**	**Very high**

The result of the study shows that the uniformed personnel in the Manila Police District exhibit a high level of adaptability to changes in command, rules, regulations, and organizational hierarchy and can step outside their stress-free situation to improve their effectiveness and efficiency in response to change initiatives. However, this adaptability can sometimes hamper the time spent with their family, posing a potential threat to their work-life balance. Ali and Anwar (2021) emphasized the significance of change management in enhancing enterprise performance through shifting from ordinary to extraordinary transformations, highlighting employees' adaptation to change as crucial for improving effectiveness and efficacy in organizational efforts.

3.2 Self-Determination of PNP Uniformed Personnel

In terms of Autonomy

The PNP uniformed personnel's Autonomy was High (Agree 3.23), as shown in Table 5. The indicator "When I am at work, I do what I am commanded to" yielded the highest mean score of 3.29, interpreted as Strongly Agree or Very High. Moreover, the indicator "I am free to express my ideas and opinions on my job" had the lowest mean score of 3.18, interpreted as Agree or High.

Table 5. Descriptive statistics of the level of self-determination of PNP uniformed personnel in terms of autonomy

Indicators	Mean	Interpretation
1. I feel like I can pretty much be myself at work.	3.24	High
2. When I am at work, I do what I am commanded to.	3.29	Very high
3. I can express my ideas and opinions on my job.	3.18	High
4. My immediate supervisor and even senior colleagues allow me to decide how to do my work.	3.20	High
Overall assessment	**3.23**	**High**

The study's findings indicate that granting self-governance to PNP uniformed personnel in the Manila Police District can potentially enhance their role as public servants. At the same time, it also presents a complying initiative of personnel to the directives from higher-ranking officers, who often provide valuable governance and experienced insights that profit the organization. As Al-Khouja et al. (2020) mentioned, autonomy support in the English police could reduce the diversity of animosity by instilling ethical values and encouraging motivation to overcome prejudice.

In terms of Competence

The PNP uniformed personnel's Competence was Very High (Strongly Agree 3.31), as provided in Table 6. The indicator "I have been able to learn interesting skills on my job" yielded the highest mean score of 3.36, interpreted

as Strongly Agree or Very High. Furthermore, "I do feel very competent when I am at work" received the lowest mean score of 3.25, interpreted as Strongly Agree or Very High.

Table 6. Descriptive statistics of the level of self-determination of PNP uniformed personnel in terms of competence

Indicators	Mean	Interpretation
1. I do feel very competent when I am at work.	3.25	Very high
2. People at work tell me I am good at what I do.	3.27	Very high
3. I have been able to learn interesting skills on my job.	3.36	Very high
4. Most days, I feel a sense of accomplishment from working.	3.34	Very high
Overall assessment	**3.31**	**Very high**

The PNP uniformed personnel's Competence was Very High (Strongly Agree 3.31), as provided in Table 6. The indicator "I have been able to learn interesting skills on my job" yielded the highest mean score of 3.36, interpreted as Strongly Agree or Very High. Furthermore, "I do feel very competent when I am at work" received the lowest mean score of 3.25, interpreted as Strongly Agree or Very High. The result of the study reveals that through effective training commencing from the Basic Recruitment Course to the newly appointed personnel, uniformed personnel in Manila Police District improve their personal competencies and adaptability that they utilize in their profession in fulfilling their duties effectively as a purpose to serve and protect the citizens of our country. In the study by Bondarenko et al. (2020) they claimed that through training, future patrol police officers developed high competencies and professional skills that contributed to improving job efficiency as public servants.

In terms of Relatedness

The relatedness of the PNP uniformed personnel was very high (Strongly Agreed, 3.42), as shown in Table 7. Furthermore, the indicator "I get along with the people at work" yielded the highest mean score of 3.69, interpreted as Strongly Agree or Very High. However, the indicator "People at work care about me" sustained the lowest mean score of 3.20, interpreted as Agree or High.

Table 7. Descriptive statistics of the level of self-determination of PNP uniformed personnel in terms of relatedness

Indicators	Mean	Interpretation
1. I get along with the people at work.	3.69	Very high
2. I consider the people I work with to be my friends.	3.36	Very high
3. People at work care about me.	3.20	High
Overall assessment	**3.42**	**Very high**

This indicates that the PNP Uniformed personnel in Manila Police District can seamlessly integrate and apply their being approachable and kind to every person they encounter, especially to those they work with, accord them better work engagement and good relationships with the community and their loved ones. However, self-doubt may rise when they encounter a situation perceived as unnecessary to other people. Demirkol and Nalla (2019) asserted that a socially cohesive, loyal, and autonomous police positive force influenced officers' work motivation and job satisfaction. In contrast, alienation and cynicism negatively influenced their job as public servants.

3.3 Psychological Well-being of PNP Uniformed Personnel

In terms of Self-Acceptance

The PNP uniformed personnel's Self-Acceptance was Very High (Strongly Agree 5.19), as provided in Table 8. The indicator "In general, I feel confident and positive about myself" yielded the highest mean score of 5.53, interpreted as Strongly Agree or Very High. Moreover, the indicator "I feel like many of the people I know have gotten more out of life than I have" had the lowest mean score of 4.51, interpreted as Agree or High.

Table 8. Descriptive statistics of the level of psychological well-being of PNP uniformed personnel in terms of self-acceptance

Indicators	Mean	Interpretation
1. When I look at the story of my life, I am pleased with how things have turned out.	5.37	Very high
2. In general, I feel confident and positive about myself.	5.53	Very high
3. many people I know have gotten more out of life than I have.	4.51	High
4. I like most aspects of my personality.	5.36	Very high
Overall assessment	**5.19**	**Very high**

The results imply that personnel in the Manila Police District cultivate confidence and a positive self-image as proud members of the PNP. Nevertheless, individuals in this profession may develop adverse perceptions of those with fewer responsibilities outside the organization. As Lozhkina (2023) mentioned, the positive self-image of traffic police officers firmly influences their professional training and official behavior while countering negative public opinions.

In terms of Positive Relations with Others

The PNP uniformed personnel's Positive Relations with Others were Very High (Strongly Agree 5.43), as displayed in Table 9. The indicator "I enjoy personal and mutual conversation with family members or friends" yielded the highest mean score of 5.54, interpreted as Strongly Agree or Very High. Meanwhile, the indicator "Maintaining close relationships to others has been easy and normal for me" had the lowest mean score of 5.32, interpreted as Strongly Agree or Very High.

Table 9. Descriptive statistics of the level of psychological well-being of PNP uniformed personnel in terms of positive relations to others

Indicators	Mean	Interpretation
1. Maintaining close relationships with others has been easy and normal.	5.32	Very high
2. I feel grateful because I have friends around me with whom to share my concerns.	5.45	Very high
3. I enjoy personal and mutual conversations with family members or friends.	5.54	Very high
4. People would describe me as giving,and willing to share my time with others.	5.40	Very high
Overall assessment	**5.43**	**Very high**

Legend: 5.16 – 6.00 = Very High, 4.33 – 5.15 = High, 3.50 – 4.32 = Moderately High, 2.66 – 3.49 = Low, 1.83 – 2.65 = Moderately Low, 1.00 – 1.82 = Very Low

This implies that the strong family orientation of PNP uniformed personnel, especially in Manila Police District, enables them to value personal and meaningful conversations with their colleagues, friends, and loved ones, which significantly boosts their psychological well-being while maintaining close relationships with others may be challenged due to their constant vigilance. As mentioned by Alkhawaldeh and Alkrimeen (2021), police officers in Qatar who had high-quality social relationships and psychological well-being at work have a favorable association with their job commitment.

In terms of Autonomy

The PNP uniformed personnel's Autonomy was High (Agree 4.77), as shown in Table 10. The indicator "Being happy with myself is more important to me than having others approve of me" yielded the highest mean score of 5.12 and was interpreted as Agree or High. Meanwhile, the indicator "I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people" had the lowest mean score of 4.56, interpreted as Agree or High.

Table 10. Descriptive statistics of the level of psychological well-being of PNP uniformed personnel in terms of autonomy

Indicators	Mean	Interpretation
1. I am not afraid to voice my opinions, even when they oppose most people's opinions.	4.56	High
2. I tend to be influenced by people with strong opinions.	4.61	High
3. I judge myself by what I think is important, not by the values of what others think is important.	4.79	High
4. Being happy with myself is more important than having others approve of me.	5.12	High
Overall assessment	**4.77**	**High**

It implies that the uniformed personnel in the Manila Police District prioritize contentment over seeking approval from others. However, their opinions are presented as challenges due to the organization's emphasis on stringent rules and hierarchical structure. The study's findings further suggest that while this inherent constraint may hinder them, it also alleviates work-related stress, empowers them to express their ideas, and strengthens morale, professional effectiveness, and psychological well-being through a sense of agency in the workplace. The study by Gierszewski and Pieczywok (2021) revealed that better well-being is an intrinsic element crucial for police officers to achieve mental and physical health. It also enhanced their professional effectiveness and reduced burnout in the workplace.

In terms of Environmental Mastery

The PNP uniformed personnel's Environmental Mastery was Very High (Strongly Agree 5.16), as provided in Table 11. The indicator "The demands of everyday life allow me to strive more" yielded the highest mean score

of 5.37, interpreted as Strongly Agree or Very High. Furthermore, the indicator "I often feel overwhelmed by my responsibilities" got the lowest mean score of 4.95, interpreted as Agree or High.

Table 11. Descriptive statistics of the level of psychological well-being of PNP uniformed personnel in terms of environmental mastery

Indicators	Mean	Interpretation
1. In general, I feel I am in charge of the situation in which I live.	5.15	High
2. The demands of everyday life allow me to strive more.	5.37	Very high
3. I feel comfortable and fit well with the people and community.	5.18	Very high
4. I often feel overwhelmed by my responsibilities.	4.95	High
Overall assessment	**5.16**	**Very high**

This implies that every adversity encountered by uniformed personnel in the Manila Police District empowers them to face the demands of their daily lives. However, heavy workloads and significant responsibilities can sometimes overwhelm them. The study's findings further reveal that despite these challenges, uniformed personnel in the Manila Police District exhibit resilience by mastering every situation they encounter while performing their duties, ultimately enhancing their psychological well-being in their chosen profession. Based on the journal by Domysheva (2022), police officers' moral readiness and understanding of potential problems were essential to performing their duties and keeping calm in stressful situations effectively.

In terms of Purpose in Life

The PNP Uniformed personnel in terms of Purpose in life was High (Agree 5.07), as displayed in Table 12. Furthermore, the indicator "I have a sense of direction and purpose in life" had the highest mean score of 5.56 and was interpreted as Strongly Agree or Very High. On the other hand, the indicator "I have live one day at a time and do not think about the future" sustained the lowest mean score of 3.78, interpreted as Agree Slightly or Moderately High.

Table 12. Descriptive statistics of the level of psychological well-being of PNP uniformed personnel in terms of purpose in life

Indicators	Mean	Interpretation
1. I have life one day at a time and do not think about the future.	3.78	Moderately high
2. I have a sense of direction and purpose in life.	5.56	Very high
3. I have a good sense of what I am trying to accomplish in life.	5.50	Very high
4. My daily activities seem a blessing in disguise, which helps me to excel in life and is important to me.	5.43	Very high
Overall assessment	**5.07**	**High**

This implies that the uniformed personnel in the Manila Police District constantly seek a sense of direction and purpose in life and navigate through their vigilant mindset as public servants. However, they also cherish moments of relaxation and enjoyment, especially with their loved ones, often living in the present without dwelling on the future. The study's findings unveil that most uniformed personnel in the Manila Police District prioritize their sense of purpose and meaning, which motivates them to plan for a better future and enhance their psychological well-being. They also value living in the moment and enjoying the present. This balance allows them to make sound judgments and decisions while fulfilling their duties as public servants. Wikansari et al. (2023) state that a good mental condition can help individuals realize their meaning and goals. A person with a sense of direction, goals, and ideals made him/her feel that life had a purpose and meaning.

In terms of Personal Growth

The PNP Uniformed personnel's Personal Growth was Very High (Strongly Agree 5.39), as shown in Table 13. The indicator "For me, life has been a continuous process of learning, changing, and growth" yielded the highest mean score of 5.60 and was interpreted as Strongly Agree or Very High. Moreover, the indicator "I do enjoy being in new situations that require me to change my old familiar ways of doing things" received the lowest mean score of 5.20, interpreted as Strongly Agree or Very High.

The results imply that the PNP organization, particularly in the Manila Police District, is committed to continuous learning, adaptation, and growth, aiming to achieve success and assist citizens in resolving conflicts constructively and safely. However, embracing new situations presents challenges, as it often requires personnel to step out of their old familiar ways, which have become comfortable for them. Burlakova et al. (2023) deduced that psychological training in law enforcement officers beneficially improved their psychological well-being. It reduced stress, emphasizing the need for special strategies and support programs to combat professional burnout.

Table 13. Descriptive statistics of the level of psychological well-being of PNP uniformed personnel in terms of personal growth

Indicators	Mean	Interpretation
1. I am interested in activities that will expand my horizons.	5.44	Very high
2. I sense that I have developed a lot over time.	5.33	Very high
3. I enjoy being in new situations that require me to change my old, familiar ways of doing things.	5.20	Very high
4. For me, life has been a continuous learning, change, and growth process.	5.60	Very high
Overall assessment	**5.39**	**Very high**

3.4 Relationship Between Work-Life Balance, Self-Determination, and Psychological Well-Being

Work-Life Balance and Psychological Well-Being

Work-life balance was significantly correlated to the psychological well-being of the uniformed personnel in the Manila Police District (see Table 14). The probability values were all .000, less than the significance level at .05. Thus, the null hypothesis was rejected.

Table 14. Analysis of the relationship between work-life balance and psychological well-being among PNP uniformed personnel

Work-life balance	Psychological well-being	r -value	p-value	Remarks	Decision
Stress Management	Self-acceptance	.354**	.000	Significant	Reject ho
	Positive relationships	.402**	.000	Significant	Reject ho
	Autonomy	.460**	.000	Significant	Reject ho
	Environmental Mastery	.435**	.000	Significant	Reject ho
	Purpose in life	.376**	.000	Significant	Reject ho
	Personal Growth	.427**	.000	Significant	Reject ho
Self-Management	Self-acceptance	.460**	.000	Significant	Reject ho
	Positive relationships	.415**	.000	Significant	Reject ho
	Autonomy	.539**	.000	Significant	Reject ho
	Environmental Mastery	.559**	.000	Significant	Reject ho
	Purpose in life	.428**	.000	Significant	Reject ho
	Personal Growth	.501**	.000	Significant	Reject ho
Time Management	Self-acceptance	.376**	.000	Significant	Reject ho
	Positive relationships	.317**	.000	Significant	Reject ho
	Autonomy	.535**	.000	Significant	Reject ho
	Environmental Mastery	.457**	.000	Significant	Reject ho
	Purpose in life	.404**	.000	Significant	Reject ho
	Personal Growth	.377**	.000	Significant	Reject ho
Change Management	Self-acceptance	.471**	.000	Significant	Reject ho
	Positive relationships	.511**	.000	Significant	Reject ho
	Autonomy	.532**	.000	Significant	Reject ho
	Environmental Mastery	.535**	.000	Significant	Reject ho
	Purpose in life	.470**	.000	Significant	Reject ho
	Personal Growth	.534**	.000	Significant	Reject ho

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed)

This implies that maintaining a balance between professional and personal lives among PNP uniformed personnel promotes psychological well-being, influencing their psychological health. This aspect is crucial for them to attain efficient work performance during emergencies and high-stress incidents while addressing work-family issues that may otherwise lead to burnout and high turnover rates. The study by Kurtuluz et al. (2023) claimed that social support in the workplace allowed individuals to cope with difficult life events, promoted their well-being amidst adversities, and achieved a balance by minimizing role conflicts in both work and personal life.

Self-Determination and Psychological Well-Being

Self-determination was significantly correlated with the psychological well-being of the uniformed personnel in the Manila Police District (see Table 15). The probability values were all .000, less than the significance level at .05. Thus, the null hypothesis was rejected. It indicates that strengthening self-determination among uniformed personnel in the Manila Police District, which involves autonomy, competence, and relatedness, is essential for bolstering their motivation and psychological well-being.

This helps them serve and protect the community's citizens and boosts their happiness and morale in tackling adversities. It also promotes their ability to make sound decisions and judgments in various situations as they perform their duties as public servants. Based on the study by Tang et al. (2021) emphasized that autonomy,

competence, and relatedness were essential for enhancing autonomous motivation and promoting psychological well-being among older adults in China and France. As a result, the study found that high need satisfaction was linked to higher autonomous motivation and psychological well-being, regardless of age or culture, in China and France.

Table 15. Analysis of the relationship between self-determination and psychological well-being among PNP uniformed personnel

Self-determination	Psychological well-being	r- value	p-value	Remarks	Decision
	Self-acceptance	.467**	.000	Significant	Reject ho
	Positive relationships	.455**	.000	Significant	Reject ho
Autonomy	Autonomy	.582**	.000	Significant	Reject ho
	Environmental Mastery	.532**	.000	Significant	Reject ho
	Purpose in life	.463**	.000	Significant	Reject ho
	Personal Growth	.484**	.000	Significant	Reject ho
	Self-acceptance	.466**	.000	Significant	Reject ho
Competence	Positive relationships	.454**	.000	Significant	Reject ho
	Autonomy	.490**	.000	Significant	Reject ho
	Environmental Mastery	.521**	.000	Significant	Reject ho
	Purpose in life	.419**	.000	Significant	Reject ho
	Personal Growth	.528**	.000	Significant	Reject ho
	Self-acceptance	.388**	.000	Significant	Reject ho
	Positive relationships	.434**	.000	Significant	Reject ho
Relatedness	Autonomy	.406**	.000	Significant	Reject ho
	Environmental Mastery	.458**	.000	Significant	Reject ho
	Purpose in life	.372**	.000	Significant	Reject ho
	Personal Growth	.448**	.000	Significant	Reject ho

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed)

3.5 Impact of Work-life Balance on Psychological Well-being

In terms of Self-Acceptance

As shown in Table 16, self-management and change management significantly impacted psychological well-being, especially Self-Acceptance, by 24.3%, with p-values of .013 and .004, leading to the rejection of the null hypothesis. Conversely, stress management and time management had no significant effect on Self-Acceptance, with p-values of .480 and .917, leading to the acceptance of the null hypothesis.

Table 16. Regression analysis on the impact of the level of work-life balance on psychological well- in terms of self-acceptance

Variables	Unstandardized B	Std. Error	Standardized B	t	p-value	Remarks	Decision
(Constant)	2.810	0.287		9.780	0.000		
Stress Management	0.012	0.111	0.009	0.104	0.917	Not Significant	Accept Ho
Self-Management	0.343	0.137	0.256	2.493	0.013	Significant	Reject Ho
Time Management	-0.084	0.118	-0.071	-0.708	0.480	Not Significant	Accept Ho
Change Management	0.456	0.158	0.317	2.896	0.004	Significant	Reject Ho

R – Square = 0.243, Adjusted R Square= 0.230, F-value = 18.588, Significance = 0.000

This implies that the uniformed personnel in the Manila Police District can adapt and manage themselves amidst frequent organizational changes, often facing reassignment due to the nature of their job. However, these transitions can negatively impact their stress and time management, influenced by the unique cultures of each new assignment and the decision-making of their new chiefs. According to Daria (2023), educational instructors' beliefs in their own capabilities and self-management skills could significantly impact their personal and professional abilities, ultimately aiding in unlocking the full potential of their students. Meanwhile, Colombo et al. (2023) inferred that positive attitudes toward organizational change were associated with lower levels of work-related exhaustion among police officers. As a result, resistance to change correlated with higher exhaustion levels. This urged that fostering a positive outlook on change could mitigate burnout among police workers. Further, Brauner et al. (2019) found that employees with high working time demand and low control faced significant health and work-life balance issues. Granting greater control over work schedules and reducing working time demands was crucial for promoting health, improving work-life harmony, and enhancing their well-being.

In terms of Positive Relations with Others

As shown in Table 17, Time management and change management significantly impacted psychological well-being, particularly Positive Relations with Others, by 29.1%, with p-values of .004 and .000, leading to the rejection of the null hypothesis. However, stress management and self-management had no significant effect on Positive Relations with Others, with p-values of .106 and .353, leading to the acceptance of the null hypothesis.

Table 17. Regression analysis on the impact of the level of work-life balance on psychological well- in terms of positive relations to others

Variables	Unstandardized B	Std. Error	Standardized B	t	p-value	Remarks	Decision
(Constant)	2.812	0.280		10.06	0.000		
Stress Management	0.175	0.108	0.134	1.624	0.106	Not Significant	Accept Ho
Self-Management	0.125	0.134	0.092	0.932	0.353	Not Significant	Accept Ho
Time Management	-0.332	0.115	-0.280	-2.886	0.004	Significant	Reject Ho
Change Management	0.812	0.153	0.562	5.295	0.000	Significant	Reject Ho

R – Square = 0.291, Adjusted R Square= 0.278, F-value = 23.652, Significance = 0.000

It indicates that the proactive approach of uniformed personnel in the Manila Police District in managing their time and adapting to organizational changes influences their positive relationship with others. Maintaining a balance between work and personal time and engaging well with colleagues and supervisors enhances employee satisfaction, thereby supporting effective job performance. Conversely, strict adherence to directives may reduce self-management while alleviating stress management due to the stressors beyond their control. As deduced by Bedi and Sass (2022), effective time management behaviors resulted in increased job satisfaction, improved performance, and decreased stress and burnout, partially mediated by work-family conflict. Furthermore, as Onyekwere et al. (2023) stated, strong leadership was required to successfully navigate change and inspire employees through a clear vision, defined strategy, effective communication, and support by committing to change. Meanwhile, based on the study of Delavin and Pogoy (2023), married female teachers' work-life balance during the pandemic followed a cyclical pattern influenced by individual and family-related issues. Gender, marital status, age, obligation, and personal traits played a role in this variability. Further, as claimed by Ryu et al. (2020), police officers' momentary stress and effect were influenced by within-person and between-person stress factors, contextual factors, and social factors. This emphasized the importance of interventions to mitigate stress and improve the effect on the police force.

In terms of Autonomy

Table 18. Regression analysis on the impact of the level of work-life balance on psychological well- in terms of autonomy

Variables	Unstandardized B	Std. Error	Standardized B	t	p-value	Remarks	Decision
(Constant)	1.605	0.317		5.061	0.000		
Stress Management	0.112	0.122	0.073	0.918	0.360	Not Significant	Accept Ho
Self-Management	0.343	0.152	0.217	2.263	0.025	Significant	Reject Ho
Time Management	0.286	0.130	0.205	2.195	0.029	Significant	Reject Ho
Change Management	0.253	0.174	0.149	1.456	0.147	Not Significant	Accept Ho

R – Square = 0.340, Adjusted R Square= 0.328, F-value = 29.692, Significance = 0.000

As shown in Table 18, Self-management and time management significantly impacted psychological well-being, specifically Autonomy, by 34%, with p-values of .025 and .029, leading to the rejection of the null hypothesis. Conversely, stress management and change management had no significant effect on Autonomy, with p-values of .360 and .147, leading to the acceptance of the null hypothesis. It implies that by applying the right or condition of self-governing and volitional experience, uniformed personnel in the Manila Police District enhance their self-management and time-management capabilities, empowering them to make decisions autonomously. However, their capacity to navigate change is hampered by the hierarchical structure and strict organizational rules, which diminish their coping mechanisms in the face of uncertainty across various situations. These constraints hinder their ability to incorporate their insights when fulfilling their duties. According to Doblinger (2023), the higher individual autonomy in self-managing organizations could have resulted in increased job crafting, work engagement, and job satisfaction, as well as reduced error strain while increasing error learning and risking errors. Meanwhile, Au et al. (2023) claimed that time management skills were more important than resilience in predicting autonomy in university students' psychological well-being, affecting their ability to achieve academic goals. Moreover, Banerjee et al. (2021) revealed that good management practices in hierarchical police departments boosted officer efficiency, especially when incentives were provided for officers designated to sobriety

checkpoints. However, reducing middle managers' autonomy through limitations on transfers, rotations, and duty assignments proved ineffective in enhancing police performance. Further, Purba and Demou (2019) highlighted that occupational stressors significantly impacted police officers' mental well-being. This led the organization to implement interventions and policy changes to promote a healthy work environment that benefits officers and the public.

In terms of Environmental Mastery

As shown in Table 19, self-management and change management significantly impacted psychological well-being, particularly Environmental Mastery, by 33.7%, with p-values of .000 and .019, leading to the rejection of the null hypothesis. Conversely, stress management and time management had no significant effect on Environmental Mastery, with p-values of .523 and .650, leading to the acceptance of the null hypothesis.

Table 19. Regression analysis on the impact of the level of work-life balance on psychological well- in terms of environmental mastery

Variables	Unstandardized B	Std. Error	Standardized B	t	p-value	Remarks	Decision
(Constant)	2.190	0.288		7.614	0.000		
Stress Management	0.071	0.111	0.051	0.640	0.523	Not Significant	Accept Ho
Self-Management	0.525	0.138	0.366	3.814	0.000	Significant	Reject Ho
Time Management	-0.054	0.118	-0.043	-0.454	0.650	Not Significant	Accept Ho
Change Management	0.371	0.158	0.242	2.355	0.019	Significant	Reject Ho

R – Square = 0.337, Adjusted R Square= 0.325, F-value = 29.316, Significance = 0.000

It implies that mastering the situations enables uniformed personnel in Manila Police Districts to effectively manage themselves and adeptly navigate organizational changes, thereby reducing their uncertainty about circumstances and enhancing their ability to overcome challenges. However, their efforts to anticipate every possible scenario can clutter their thoughts, hampering their coping mechanism and consuming their time, causing them to set aside tasks unrelated to the immediate situation they encounter. According to Schafer et al. (2020), organizational change was crucial and unavoidable for police reform, with supervisors playing an important role in ensuring the proper implementation of street-level initiatives. Their prior experiences and attitudes toward change significantly influenced their views on policing reforms, making them pivotal for success. Concurrently, as inferred by Rodriguez et al. (2020), environmental mastery and self-concept positively influenced university students' psychological well-being, allowing them to grow personally. Meanwhile, Demou et al. (2020) claimed that police officers' mental well-being could be affected by job demands such as long working hours, workloads, organizational culture, leadership, and organizational change. They emphasized the importance of interventions such as training, counseling, and workplace environmental changes to mitigate these stressors and support mental health in police culture.

In terms of purpose in life

As shown in Table 20, change management significantly impacted psychological well-being, particularly Purpose in Life, by 23.1% with a p-value of .006, leading to the rejection of the null hypothesis. Conversely, stress management, self-management, and time management did not significantly affect Purpose in Life, with p-values of .519, .251, and .705, leading to the acceptance of the null hypothesis.

Table 20. Regression analysis on the impact of the level of work-life balance on psychological well- in terms of purpose in life

Variables	Unstandardized B	Std. Error	Standardized B	t	p-value	Remarks	Decision
(Constant)	2.610	0.306		8.523	0.000		
Stress Management	0.076	0.118	0.055	0.646	0.519	Not Significant	Accept Ho
Self-Management	0.168	0.146	0.119	1.150	0.251	Not Significant	Accept Ho
Time Management	0.048	0.126	0.038	0.379	0.705	Not Significant	Accept Ho
Change Management	0.466	0.168	0.307	2.776	0.006	Significant	Reject Ho

R – Square = 0.231, Adjusted R Square= 0.218, F-value = 17.352, Significance = 0.000

This implies that an enlightened sense of purpose, meaning, and goals among uniformed personnel in the Manila Police District helps them cope with their changing environment, especially with the organization's unstable rules and regulations. However, losing control of their pathway in life and facing unforeseen goals impairs their ability to deal with uncontrollable challenges. If not appropriately addressed, this can compromise their coping mechanisms and time management, potentially leading to burnout and an unmanageable work-life balance. As stated by Willroth et al. (2021), the higher the level of purpose in life and the more positive the purpose for change

among midlife white American and African populations, the better their physical health in the middle to older adulthood. Meanwhile, the study of Tsumarieva et al. (2023) emphasized that training law enforcement officers for professional fulfillment should focus on motivation, support, time management, success recognition, and relaxation while addressing stress, insecurity, self-criticism, and risk-taking attitudes, which negatively impact readiness for self-fulfillment.

In terms of Personal Growth

As shown in Table 21, self-management, time management, and change management significantly impacted psychological well-being, specifically Personal Growth, by 31.9 %, with p-values of .007, .019, and .000, leading to the rejection of the null hypothesis. On the other hand, stress management did not significantly affect Personal Growth, with a p-value of .206, leading to the acceptance of the null hypothesis.

Table 21. Regression analysis on the impact of the level of work-life balance on psychological well- in terms of personal growth

Variables	Unstandardized B	Std. Error	Standardized B	t	p-value	Remarks	Decision
(Constant)	2.685	0.266		10.095	0.000		
Stress Management	0.130	0.103	0.102	1.269	0.206	Not Significant	Accept Ho
Self-Management	0.345	0.127	0.264	2.711	0.007	Significant	Reject Ho
Time Management	-0.258	0.109	-0.224	-2.360	0.019	Significant	Reject Ho
Change Management	0.599	0.146	0.427	4.110	0.000	Significant	Reject Ho

R – Square = 0.319, Adjusted R Square= 0.307, F-value = 27.077, Significance = 0.000

This indicates the PNP organization's strong commitment to developing its personnel, particularly in the Manila Police District, by helping them engage more in activities and situations that strengthen their capabilities. It also encouraged them to manage their personal and professional lives effectively, be punctual and responsible in managing their time, and accept change. This helped them move from stress-free situations to becoming transformative individuals who efficiently help the community in policing law. However, their ability to cope may suffer if they cannot keep up with the frequent changes. Lowery and Cassidy (2022) deduced that first responders who incorporated self-compassion, physical activity, relationship satisfaction, and social support built resilience and improved coping strategies, enhancing their health and well-being in their profession. Meanwhile, Ekaterina (2020) revealed that effective time management ensured psychological safety by using time constructively and avoiding actions that waste time and energy. Moreover, Kolbergyte and Dromantaite (2022) proclaimed that managerial growth during organizational changes entailed the development of personal and professional skills and the conscious evolution of inner perceptions regarding work. On the other hand, Zadorozhnya et al. (2023) inferred that stress resistance was essential for National Police officers to effectively fulfill their duties and maintain health, noting that inadequate psycho-emotional preparation leads to poor performance, injuries, and deaths due to stress.

3.6 Impact of Self-Determination on Psychological Well-being

In terms of Self-Acceptance

As shown in Table 22, autonomy and competence significantly impacted psychological well-being regarding Self-Acceptance by 24.6 %, with p-values of .010 and .047 leading to the rejection of the null hypothesis. At the same time, relatedness did not significantly affect Self-Acceptance, with a p-value of .298 leading to the acceptance of the null hypothesis.

Table 22. Regression analysis on the impact of self-determination on psychological well- in terms of self-acceptance

Variables	Unstandardized B	Std. Error	Standardized B	t	p-value	Remarks	Decision
(Constant)	2.408	0.367		6.557	0.000		
Self-determination Autonomy	0.366	0.140	0.247	2.612	0.010	Significant	Reject Ho
Competence	0.323	0.162	0.209	1.996	0.047	Significant	Reject Ho
Relatedness	0.157	0.151	0.085	1.044	0.298	Not Significant	Accept Ho

R – Square = 0.246, Adjusted R Square= 0.236, F-value = 25.207, Significance = 0.000

This implies that by bolstering self-acceptance among uniformed personnel in the Manila Police District, their autonomous perception and even competence in performing their tasks as community guardians also strengthen as they safeguard their inner selves during adversities. However, their relatedness to others may hamper when they make mistakes, leading to frustration due to public scrutiny. Based on the study by Malley and Qualls (2020)

found that psychological well-being, specifically autonomy and self-acceptance, discreetly predicted positive aspects of caregiving, such as competence and personal gain. Meanwhile, Morrow et al. (2019) claimed that the negative media scrutiny of law enforcement adversely impacted college students' motivation to become police officers, resulting in a decreased application rate.

In terms of Positive Relations with Others

As shown in Table 23, autonomy and relatedness significantly impacted psychological well-being, particularly in terms of Positive Relations to Others, by 24.9%, with p-values of .019 and .016, leading to the rejection of the null hypothesis. In contrast, competence did not significantly affect psychological well-being in terms of Positive Relations to Others, with a p-value of .192, leading to the acceptance of the null hypothesis.

Table 23. Regression analysis on the impact of self-determination on psychological well- in terms of positive relations to others

Variables	Unstandardized B	Std. Error	Standardized B	t	p-value	Remarks	Decision
(Constant)	2.404	0.368		6.530	0.000		
Self-determination Autonomy	0.332	0.140	0.224	2.366	0.019	Significant	Reject Ho
Competence	0.212	0.162	0.137	1.308	0.192	Not Significant	Accept Ho
Relatedness	0.366	0.151	0.197	2.424	0.016	Significant	Reject Ho

R – Square = 0.249, Adjusted R Square= 0.240, F-value = 25.693, Significance = 0.000

This implies that the uniformed personnel in Manila Police District increase their autonomous perspective and relatedness by connecting with their colleagues and supervisors, which enhances their interpersonal relationships and enables them to gain secondhand experience in carrying out their duties in the community. However, compromising positive relations with others hinders them from gaining competence, essential in performing their job as public servants. Based on the study by Dombestein et al. (2019), they discovered that the psychological demands for autonomy, competence, and relatedness significantly predicted motivation levels among informal caregivers, influencing their well-being while providing unpaid support to relatives or friends during illness progression. Meanwhile, as deduced by Dulin and Dulin (2020), subcultural factors influenced police motivation to learn and transfer new knowledge, with innovation in police subculture positively impacting this motivation, while bureaucratic culture had a negative effect.

In terms of Autonomy

As shown in Table 24. Autonomy significantly impacted psychological well-being in terms of Autonomy by 34.3 %, with a p-value of .000, leading to the rejection of the null hypothesis. At the same time, competence and relatedness did not significantly affect psychological well-being, with p-values of .664 and .469, leading to the acceptance of the null hypothesis.

Table 24. Regression analysis on the impact of self-determination on psychological well- in terms of autonomy

Variables	Unstandardized B	Std. Error	Standardized B	t	p-value	Remarks	Decision
(Constant)	1.205	0.405		2.976	0.003		
Self-determination Autonomy	0.897	0.154	0.514	5.813	0.000	Significant	Reject Ho
Competence	0.078	0.178	0.043	0.435	0.664	Not Significant	Accept Ho
Relatedness	0.121	0.166	0.055	0.726	0.469	Not Significant	Accept Ho

R – Square = 0.343, Adjusted R Square= 0.334, F-value = 40.309, Significance = 0.000

This indicates that having the right or condition to self-government among uniformed personnel in the Manila Police District strengthens their inner motivation, helps them to attain happiness, and increases morale, providing them with a desire to engage more in their chosen profession and perform their duties efficiently. In contrast, a lack of autonomous insight can impair their ability to fulfill their job and cause feelings of cynicism and alienation from themselves to others. According to Ajoke and Sunday (2020), humor is therapeutic and adaptive, positively impacting individuals with severe mental health issues by aiding in thought suppression and enhancing autonomy and psychological well-being for both genders. Meanwhile, Kadel (2020) asserted that teacher autonomy was crucial for professional competence, highlighting that constraints in curriculum design and inadequate funding diminish teaching and learning proficiency. Furthermore, Vanderstukken and Caniëls (2021) found that workplace autonomy had a stronger negative association with work alienation among subordinates with low psychological capital compared to those with high psychological capital, while leaders experienced a negative relationship with work alienation regardless of their psychological capital level.

In terms of Environmental Mastery

As shown in Table 25, autonomy significantly impacted psychological well-being in terms of Environmental Mastery by 31.9 %, with a p-value of .001, leading to the rejection of the null hypothesis. At the same time, competence and relatedness did not significantly affect psychological well-being, with p-values of .065 and .068, leading to the acceptance of the null hypothesis.

Table 25. Regression analysis on the impact of self-determination to psychological well- in terms of environmental mastery

Variables	Unstandardized B	Std. Error	Standardized B	t	p-value	Remarks	Decision
(Constant)	1.205	0.405		2.976	0.003		
Self-determination Autonomy	0.897	0.154	0.514	5.813	0.001	Significant	Reject Ho
Competence	0.078	0.178	0.043	0.435	0.065	Not Significant	Accept Ho
Relatedness	0.121	0.166	0.055	0.726	0.068	Not Significant	Accept Ho

R – Square = 0.319, Adjusted R Square= 0.311, F-value = 36.307, Significance = 0.000

This implies that the ability of uniformed personnel in the Manila Police District to master the situations they could encounter boosts their inner motivation. Conversely, unawareness and lack of relation regarding undesirable situations impede their ability to manage them, which can cause problems, influencing their decision-making and judgment in their duties as public servants. In the study by Chen and Wu (2022), they found that optimizing the ratio of job demands and autonomy in police work, particularly high guidance under high demands, effectively reduced negative stress responses among officers. Meanwhile, Krasnoshchok and Dikhtiar (2021) asserted that prolonged extreme conditions in law enforcement eroded self-discipline and moral control, leading to negative behaviors, including recklessness, vulgarity, ethical disregard, insubordination, resentment, rudeness, and excessive drinking. Furthermore, the study of Eliasson (2023) revealed that police officers faced various forms of victimization on the job, which had direct and indirect physical, mental, and economic impacts, often overlooked due to societal and officer perceptions of violent and nonviolent victimizations.

In terms of Purpose in Life

As shown in Table 26, autonomy significantly impacted psychological well-being in terms of Purpose in Life by 22.7 %, with a p-value of .001, leading to the rejection of the null hypothesis. At the same time, competence and relatedness did not significantly affect psychological well-being, with p-values of .473 and .187, leading to the acceptance of the null hypothesis.

Table 26. Regression analysis on the impact of self-determination to psychological well- in terms of purpose in life

Variables	Unstandardized B	Std. Error	Standardized B	t	p-value	Remarks	Decision
(Constant)	2.244	0.393		5.709	0.000		
Self-determination Autonomy	0.521	0.150	0.334	3.482	0.001	Significant	Reject Ho
Competence	0.125	0.173	0.076	0.719	0.473	Not Significant	Accept Ho
Relatedness	0.213	0.161	0.109	1.325	0.187	Not Significant	Accept Ho

R – Square = 0.227, Adjusted R Square= 0.217, F-value = 22.724, Significance = 0.000

This indicates that the autonomous mindset among uniformed personnel in the Manila Police District affects their understanding of the purpose in life, providing them with hope amidst challenges and enabling them to foresee adversities as stepping stones to succeed. Conversely, lack of meaning and goals negatively affects their competence and relatedness, reducing their motivation to engage more in their chosen profession and protect our country's citizens. As deduced by Serdiuk (2019), self-determination of personal development was the psychological foundation for personal self-realization and psychological well-being, influenced by understanding life goals, meanings, motivation, and personal autonomy. Meanwhile, Irani et al. (2021) found that negative marital interaction was associated with lower levels of purpose in life for both husbands and wives, resulting in depressive symptoms for wives. Furthermore, Gonito et al. (2021) revealed that Pharmacy students faced significant pressure from future professional expectations, requiring them to support patient health, enhance their psychological well-being, and gain control over their lives to excel in their careers.

In terms of Personal Growth

Competence significantly impacted psychological well-being in terms of Personal Growth by 29.8 %, with p-values of .002 leading to the rejection of the null hypothesis. At the same time, autonomy and relatedness did not significantly affect psychological well-being, with p-values of .094 and .101 leading to the acceptance of the null hypothesis.

Table 27. Regression analysis on the impact of self-determination on psychological well- in terms of personal growth

Variables	Unstandardized B	Std. Error	Standardized B	t	p-value	Remarks	Decision
(Constant)	2.318	0.346		6.703	0.000		
Self-determination Autonomy	0.221	0.132	0.153	1.679	0.094	Not Significant	Accept Ho
Competence	0.473	0.152	0.314	3.108	0.002	Significant	Reject Ho
Relatedness	0.233	0.142	0.129	1.645	0.101	Not Significant	Accept Ho

R – Square = 0.298, Adjusted R Square= 0.289, F-value = 32.833, Significance = 0.000

This implies the eagerness of the Philippine National Police, particularly in the Manila Police District, to develop the ability of their personnel and motivate them to engage in various schooling and activities to learn more, which assists the community in addressing their problems and inspires them to perform their job as public servants. In contrast, compromising volitional experience and relatedness to others can impede their motivation to desire personal growth due to diminishing morale, affecting their discernment in attaining development. According to Treļs et al. (2023), fostering socio-emotional competence and professional ethics among police officers could improve their effectiveness in handling official duties and navigating personal and professional challenges in a multicultural society. Meanwhile, Bergamin et al. (2022) revealed that mental illness decreased personal autonomy differently based on underlying psychopathology and individual circumstances, impacting quality of life and motivation for treatment-seeking. Additionally, as deduced by Serrano (2021), women faced significant psychological challenges when their husbands were incarcerated and dealing with drug addiction, leading to substantial distress and reduced well-being.

4.0 Conclusions

Adapting PNP uniformed personnel to organizational changes helps them efficiently navigate daily adversities in both personal and professional aspects of their lives. It helps them to manage their time, stress, and themselves. Additionally, their capability to seamlessly integrate with others and learn helps them handle challenges effectively. However, the organization's hierarchical structure and strict rules limit their autonomy in expressing insights and opinions freely. Correspondingly, a lack of clarity regarding their goals and life's meaning hampers their autonomy, impacting psychological well-being crucial for managing challenges effectively. PNP uniformed personnel who attained a balance between personal and professional aspects of their lives had enhanced psychological well-being, improving their performance in emergencies and high-stress situations while mitigating work-family conflicts that could contribute to burnout and turnover. Simultaneously, strengthened self-determination is also crucial for improving their psychological well-being by promoting positive mental states such as happiness and satisfaction, enhancing morale in facing challenges, fulfilling their community mandate to serve and protect, and fostering sound decision-making and judgment in their roles as public servants. Future researchers may investigate additional factors regarding PNP uniformed personnel and implement them in other police districts to validate the obtained results from the study.

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Antimicrobial Activity of *Coffea liberica* (Liberian Coffee) in Different Roasting Intensities and Varying Extract Concentrations against *Staphylococcus aureus* and *Escherichia coli*

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Abstract. Much prior research has shown that coffee, particularly its polyphenolic compounds like caffeine, chlorogenic acid, and melanoidins, exhibits antimicrobial properties against various pathogens. Building on this foundation, this study aimed to determine the antimicrobial activity of Coffea liberica (Liberian Coffee) with a focus on varying roasting intensities and concentrations. Specifically, it investigated the effects of different roasting intensities and extract concentrations against Staphylococcus aureus and Escherichia coli. Coffea liberica contains polyphenols such as caffeine, chlorogenic acid, and melanoidins, known for their antimicrobial properties. The coffee beans were obtained from Amadeo Artisano Coffee Farm and roasted to light and dark intensities. Aqueous extracts were prepared at concentrations of 25%, 50%, 75%, and 100% for each roast intensity using distilled water as the solvent. Cefepime served as a positive control, and distilled water as a negative control. The disc diffusion method on Mueller-Hinton agar plates was used to evaluate the extracts' antimicrobial activity. Results showed that Coffea liberica extracts exhibited no significant antimicrobial activity against Staphylococcus aureus or Escherichia coli across all roasting intensities and concentrations, with inhibition zones equivalent to the negative control. Descriptive statistical analysis confirmed no significant interaction between roasting intensity, extract concentration, and antimicrobial activity. The findings suggest the need for further research using alternative extraction methods, higher concentrations, or different bacteria to fully understand Coffea liberica's potential as a natural antimicrobial agent.

Keywords: Antimicrobial activity; *Coffea liberica*; *Escherichia coli*; *Staphylococcus aureus*.

1.0 Introduction

Coffee, one of the world's most widely consumed beverages and a staple in a typical Filipino breakfast, has gained recognition for its pleasant taste, stimulating effects, and various antimicrobial compounds (Almeda et al., 2020). Beyond its distinct flavor, coffee exhibits antimicrobial and anti-inflammatory properties attributed to bioactive substances in coffee beans, such as chlorogenic acid, polyphenols, and caffeine (Vijaya et al., 2020). Research indicates that phenolic, chlorogenic, malic, and caffeine contribute to coffee extracts' antimicrobial efficacy against gram-positive and gram-negative bacteria (Yosboonruang et al., 2022). However, most antimicrobial studies on

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coffee extracts have focused on *Coffea arabica* (Arabica Coffee) or *Coffea canephora* (Robusta Coffee), highlighting the need to explore the less-studied *Coffea liberica* (Liberian Coffee).

Coffea liberica, a member of the Rubiaceae family, accounts for only 2% of global coffee production, making it less commercially available than Arabica and Robusta coffee (Mubarak et al., 2019). This coffee species is commonly cultivated in lowland and tropical countries such as Malaysia, Vietnam, and the Philippines (Wahab & Nor, 2018). In the Philippines, *Coffea liberica* is notably produced in the provinces of Batangas and Cavite and is popularly known as kapeng barako. This term translates to "coffee and a wild boar," reflecting its woody taste and bitter top notes, distinct from Arabica coffee's typical fruity and sweet flavors (Philippine Coffee Board Inc., 2021).

The emergence of antimicrobial resistance presents a significant threat to global public health; the World Health Organization (WHO) has acknowledged the escalating issue of antimicrobial resistance, particularly in commonly encountered pathogens (Sukri et al., 2021). Due to this, the antimicrobial properties of *Coffea liberica*, *Coffea arabica*, and *Coffea canephora* have been a subject of interest. Research indicates that liberica coffee beans exhibit the highest antioxidant activity compared to arabica and robusta coffee beans (Frisilla et al., 2022). This antioxidant activity is attributed to bioactive compounds like polyphenols, flavonoids, and tannins in liberica coffee (Maxiselly, 2023). *Coffea liberica* is known for its unique genetic makeup, distinct from arabica and canephora, which may contribute to variations in antimicrobial properties (Berti et al., 2020).

Staphylococcus aureus, a gram-positive bacterium, is a major human pathogen responsible for bacteremia, skin and soft tissue infections, and device-related infections (Tong et al., 2015). This bacterium is commonly found in food-producing animals and raw food, with humans being the primary reservoir (BC Centre for Disease Control, n.d.). *Escherichia coli*, a gram-negative bacterium, is part of the normal intestinal flora but can cause various diarrheal and extraintestinal diseases (Mueller & Tainter, 2023). In the Philippines, E. coli can be found in diverse sources such as irrigation water, soil, and the feces of animals like dogs, cats, and chickens (Zara & Vital, 2022).

Despite coffee's known antimicrobial properties, comprehensive studies on the antimicrobial activity of *Coffea liberica* remain scarce. Research has shown that roasting intensity significantly impacts coffee beans' polyphenol content and antimicrobial activity (Alnsour et al., 2021). Considering the limited information on the composition and antimicrobial properties of *Coffea liberica*, along with the pressing issue of multidrug resistance in *Staphylococcus aureus* and *Escherichia coli,* this study sought to elucidate the effects of different roasting intensities and extract concentrations of *Coffea liberica* on its antimicrobial efficacy against these pathogens. Understanding the antimicrobial properties of *Coffea liberica* is increasingly important, given the global demand for diverse coffee types.

2.0 Methodology

2.1 Research Design

The study employed experimental research design using a disk diffusion method to determine the effects of varying extract concentrations and roasting intensities on the antimicrobial properties of *Coffea liberica* (Liberian Coffee) extracts. For this study, two roasting intensities - light and dark and four extract concentrations - 25%, 50%, 75%, and 100% served as the independent variables. At the same time, the dependent variables measure the antimicrobial activity against *Staphylococcus aureus and Escherichia coli*. These variations produced distinct conditions relevant to the research objectives.

2.2 Procedure

The researchers purchased *Staphylococcus aureus* and *Escherichia coli* bacterial strains from the University of Santo Tomas—Research Center for the Natural and Applied Sciences. The *Coffea liberica* (Liberian Coffee) beans were purchased from Amadeo Artisano Coffee Farm in Amadeo, Cavite, and submitted to the Bureau of Plant Industry for authentication to ensure their identity.

After the Bureau of Plant Industry authenticated the coffee beans, they were brought to Coffee Tonya, a fresh roaster company in Poblacion, Makati City, for roasting and grinding. For its roasting conditions, since this study required two roasting intensities – light roast and dark roast, a kilo of the coffee beans were roasted at 165°C for 1 minute to produce a light roast. In contrast, another kilo of the coffee beans was roasted at 265°C for 2 minutes to

make dark-roasted beans (Rawangkan et al., 2022). After roasting the beans, both light and dark-roasted beans were ground to a third-degree or Turkish grind to make the coffee grounds as fine as possible to aid the extraction in the subsequent steps.

The ground coffee was weighed based on the percentage of the extract concentrations – 25%, 50%, 75%, and 100%. Afterward, the weighed coffee powder is then mixed with 100 mL of distilled water in different beakers to extract the appropriate amount per coffee extract concentration (Sant'Anna et al., 2016). The beakers are labeled according to their concentration and are placed on a hot plate at 150°C for 30 minutes (Norazlin et al., 2020). Then, the coffee mixtures were filtered using Whatman Filter No. 1 and were placed in Erlenmeyer flasks. Once needed for the experiment, the remaining Whatman filter paper no. 1 was punched into circles and placed under the ultraviolet light for 15 minutes to sterilize (Afroz et al., 2020). The coffee extract was poured into several Petri dishes based on their concentration and roasting intensity. Lastly, the sterilized filter papers are soaked in the coffee extract.

The materials used to prepare inoculum were vials of inactivated *Staphylococcus aureus* and *Escherichia coli* and 5 mL trypticase soy broth. The *Staphylococcus aureus* and *Escherichia coli* vials were poured into separate 5 mL tubes of trypticase soy broth. The tubes were placed inside the incubator at 37°C for 18 to 24 hours to allow the bacteria to grow. After 18 to 24 hours of incubation, the inoculum will be checked to see if the necessary turbidity was obtained using 0.5 McFarland standard (Afroz et al., 2020). If the required turbidity is reached, *Staphylococcus aureus* and *Escherichia coli* are lawned on fifteen 150 mm x 15 mm plates. Then, filter paper discs soaked with the coffee extract solution at a known concentration and roasting intensity are placed. Cefepime antibiotic discs are added as a positive control, and filter paper discs soaked in distilled water are also placed as the negative control. The agar plates are incubated at 37°C for 24 hours.

After the incubation period, the diameter of the inhibitory zone will be measured and compared (Tenover, 2019). Calipers or rulers will be used to measure the diameter of each inhibition zone after growth is deemed satisfactory. A black, non-reflecting surface is illuminated above the plate to study the zones, and the plate is subsequently lit with reflected light (Mahon & Lehman, 2019, p. 278). Furthermore, the measurement of the zone of inhibition will be the basis for determining if the bacteria is susceptible, partially susceptible, or resistant to the Liberian Coffee extract.

2.3 Statistical Treatment/Analysis of Data

The researchers analyzed the data collected from the experiment using descriptive statistics. The statistical test was used to describe and summarize features from the collected data quantitatively. By using descriptive statistics, the researchers can evaluate whether there will be a significant difference in the antimicrobial activity of *Coffea liberica* (Liberian Coffee) after the provided roasting intensities and variable concentrations are employed.

2.4 Ethical and Safety Consideration

The researchers prioritized safety, scientific, and academic integrity to ensure ethical considerations. All personal details of the farm owner and laboratory technician are kept confidential. The data are well recorded and analyzed without modification to provide reliable findings. Consequently, before starting the experimental research, the government and farm owners must obtain the necessary authorization. The farm owners and suppliers received formal and transparent information about the researchers' objectives and were free to withdraw from the study. The farm owner and suppliers are granted complete voluntary participation. This commitment to ethical principles ensures the rights and well-being of all participants while maintaining the research's integrity and validity.

3.0 Results and Discussion

Table 1 presents the Zone of inhibition in millimeters (mm) observed in *Staphylococcus aureus* when exposed to different light roast *Coffea liberica* (Liberian Coffee) extract concentrations of 25%, 50%, 75%, and 100%. The results are consistent across all three trials, with a measurement of 6 mm that aligns with the Zone of inhibition of the negative control, indicating no inhibition. On the contrary, the positive control group (Cefepime) exhibited a significantly wider zone of inhibition at 21 mm, categorized as susceptible based on the antimicrobial susceptibility testing standard of CLSI, confirming its effectiveness against *Staphylococcus aureus*. Based on the

data, light roast *Coffea liberica* (Liberian Coffee) extract does not possess antimicrobial activity against *Staphylococcus aureus* at tested concentrations.

The lack of antimicrobial activity in the *Coffea liberica* extract on this set of light roast trials could be attributed to the specific phytochemical composition of the extract, which could interfere with its possible antimicrobial activity. Studies on other plant extracts have shown that the presence of certain compounds like alkaloids, tannins, flavonoids, and saponins can contribute to broad-spectrum antimicrobial activities (Parnomo, 2021). For instance, caffeine in *Coffea arabica* has been reported to inhibit DNA synthesis in bacteria, while chlorogenic acid can interfere with bacterial cell metabolism (Parnomo, 2021).

Table 1. Zone of inhibition measured in *Staphylococcus aureus* using light roast *Coffea liberica*

	25%	50%	75%	100%	(+) Control Group	(-) Control Group
TRIAL 1	6 mm	6 mm	6 mm	6 mm	21 mm	6 mm
TRIAL 2	6 mm	6 mm	6 mm	6 mm	21 mm	6 mm
TRIAL 3	6 mm	6 mm	6 mm	6 mm	21 mm	6 mm

Figure 1 shows the results of light roast *Coffea liberica* (Liberian Coffee) at 25%, 50%, 75%, and 100%, as well as the positive and negative control, against *S. aureus*.

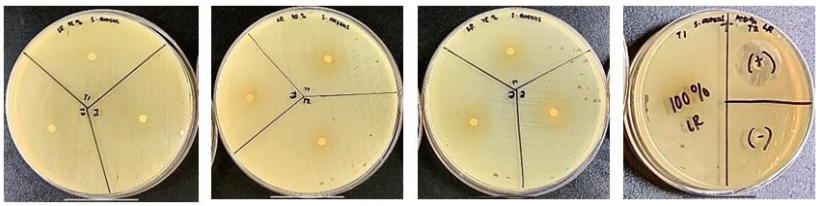

Figure 1. Results of light roast *Coffea liberica* against *Staphylococcus aureus*

The data presented in Table 2 indicates the Zone of inhibition measured for *Staphylococcus aureus* when exposed to various concentrations of dark roast *Coffea liberica* (Liberian Coffee) extracts. The results show that across all four concentrations, 25%, 50%, 75%, and 100%, the Zone of inhibition remained constant at 6 mm. This value is identical to the Zone of inhibition of the negative control group, which is also 6 mm, indicating no antimicrobial activity for dark roast *Coffea liberica* (Liberian Coffee) extract for these concentrations. According to Frisilla et al (2022), while it was highlighted that Liberian coffee beans have shown that they possess high antioxidant activity compared to other coffee varieties like arabica and robusta, the antioxidant potential of Liberian coffee might not directly translate into antimicrobial properties, as seen in the specific case of dark roasted *Coffea liberica* extracts against *Staphylococcus aureus*.

Table 2. Zone of inhibition measured in *Staphylococcus aureus* using dark roast *Coffea liberica*

	25%	50%	75%	100%	(+) Control Group	(-) Control Group
TRIAL 1	6 mm	6 mm	6 mm	6 mm	21 mm	6 mm
TRIAL 2	6 mm	6 mm	6 mm	6 mm	21 mm	6 mm
TRIAL 3	6 mm	6 mm	6 mm	6 mm	21 mm	6 mm

Figure 2 shows the results of dark roast *Coffea liberica* (Liberian Coffee) at 25%, 50%, 75%, and 100%, as well as the positive and negative control against *S. aureus*.

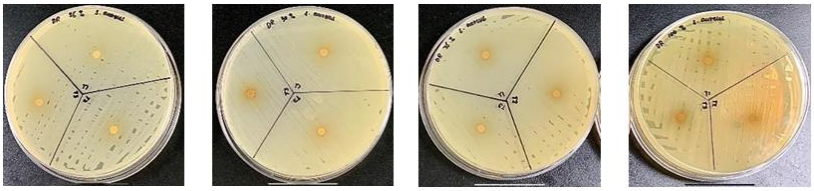

Figure 2. Results of dark roast *Coffea liberica* against *Staphylococcus aureus*

Table 3 shows the Zone of inhibition measured for *Escherichia coli* when exposed to light roast *Coffea liberica* (Liberian Coffee) extract at 25%, 50%, 75%, and 100%. Throughout the three trials and at the given concentrations, the Zone of inhibition remained the same with a measurement of 6 mm, similar to the negative control group, indicating that 25%, 50%, 75%, or 100% of dark roast *Coffea liberica* (Liberian Coffee) can not inhibit *Escherichia coli.* The negative result is further confirmed when compared to the Zone of inhibition of the positive control group (Cefepime) with a diameter of 25 mm, which is labeled as susceptible based on the antimicrobial susceptibility testing standard of CLSI (see Figure 3).

The antibacterial activity of coffee extracts has been attributed to compounds like caffeine, chlorogenic acid, and other plant extracts that have shown antimicrobial effects against various bacteria (Li et al., 2021). While some studies have explored the antibacterial properties of different materials and compounds against *Escherichia coli*, such as chitosan derivatives and zinc oxide composites (Wang et al., 2014), the interaction between light-roasted *Coffea liberica* and *Escherichia coli* remains understudied.

Table 3. Zone of inhibition measured in *Escherichia coli* using light roast *Coffea liberica*

	25%	50%	75%	100%	(+) Control Group	(-) Control Group
TRIAL 1	6 mm	6 mm	6 mm	6 mm	25 mm	6 mm
TRIAL 2	6 mm	6 mm	6 mm	6 mm	25 mm	6 mm
TRIAL 3	6 mm	6 mm	6 mm	6 mm	25 mm	6 mm

Figure 3 shows the results of light roast *Coffea liberica* (Liberian Coffee) at 25%, 50%, 75%, and 100%, as well as the positive and negative control, against *E. coli*.

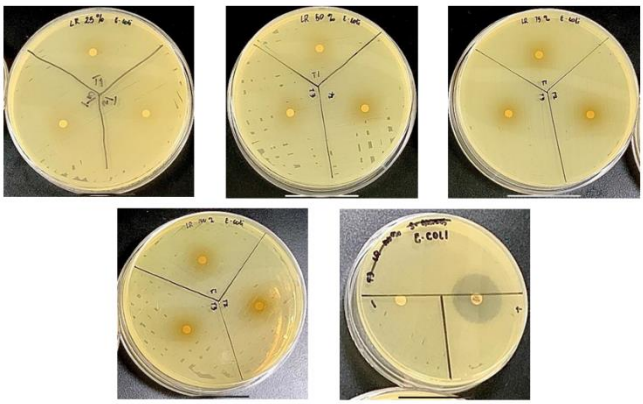

Figure 3. Results of light roast *Coffea liberica* against *Escherichia coli*

Lastly, Table 4 displays the Zone of inhibition measured for *Escherichia coli* when subjected to 25%, 50%, 75%, and 100% of dark roast *Coffea liberica* (Liberian Coffee) extract. The results show that the Zone of inhibition remained constant across all four concentrations at 6 mm. This value is identical to the Zone of inhibition of the negative control group, which is also 6 mm, indicating no antimicrobial activity for dark-roasted *Coffea liberica.*

Table 4. Zone of inhibition measured in *Escherichia coli* using dark roast *Coffea liberica*

	25%	50%	75%	100%	(+) Control Group	(-) Control Group
TRIAL 1	6 mm	6 mm	6 mm	6 mm	25 mm	6 mm
TRIAL 2	6 mm	6 mm	6 mm	6 mm	25 mm	6 mm
TRIAL 3	6 mm	6 mm	6 mm	6 mm	25 mm	6 mm

Investigations into the antibacterial effects of various plant extracts on Escherichia coli have revealed contrasting results. While some studies have reported susceptibility of *Escherichia coli* to certain plant extracts like Aloe vera and *Andrographis paniculata* (Adzitey et al., 2019; Anumihe, 2023), others have shown resistance of *Escherichia coli*

to extracts from plants such as *Carpolobia lutea* (Anibijuwon et al., 2018). These discrepancies underscore the complexity of plant-bacteria interactions and the need for comprehensive studies to understand the mechanisms underlying antibacterial activity. Figure 4 shows the results of dark roast *Coffea liberica* (Liberian Coffee) at 25%, 50%, 75%, and 100%, as well as the positive and negative control, against *E. coli*.

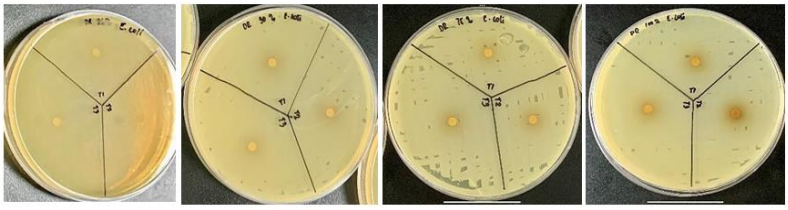

Figure 4. Results of dark roast *Coffea liberica* against *Escherichia coli*

This study examined the possibility of *Coffea liberica* (Liberian Coffee) aqueous extracts exhibiting antimicrobial activity against *Escherichia coli* and *Staphylococcus aureus*. Descriptive statistics was used to determine the effect of different roasting intensities and extract concentrations. The disc diffusion method was the principal method for assessing antimicrobial activity, with inhibition zones measured around discs containing test extract.

According to our results, neither *Staphylococcus aureus* nor *Escherichia coli* had any detectable inhibitory zones in all test instances. The experiment results show that *Coffea liberica* (Liberian Coffee) extracts lacked antimicrobial activity against these specific bacterial species at the concentrations used. Statistical analysis supported this conclusion, revealing no significant differences in antimicrobial effects between extract concentrations and the negative control group. These findings are consistent with previous research by Poire et al. (2018) and Boireau et al. (2017), highlighting the rise of multidrug resistance in *Escherichia coli*. This bacterium is known for its remarkable ability to acquire resistance genes, making it increasingly resistant to a wide range of conventional antibiotics, including penicillin, aminopenicillins, and cephalosporins. This growing resistance poses a significant challenge in treating bacterial infections and underscores the need for novel antimicrobial agents.

Despite having a lower caffeine level than other coffee species (Sithanen, 2022), *Coffea liberica* (Liberian Coffee) has been demonstrated in past studies to inhibit some microorganisms (Tan et al., 2020). Variations in the studied bacterial strains, the procedures used to prepare the coffee extracts, or the particular experimental settings could cause the observed differences between our results and those of these previous publications.

Given the acquired data, the null hypothesis was upheld, which proposed no significant interaction between roasting intensity, extract concentration, and antimicrobial activity against *Staphylococcus aureus* and *Escherichia coli*. The results imply that *Coffea liberica*(Liberian Coffee) extracts have no antimicrobial activity against these specific bacteria under the conditions examined. Future research could investigate alternative extraction methods, higher extract concentrations, or additional bacterial species to fully assess *Coffea liberica*'s (Liberian Coffee) antimicrobial properties. Given the acquired data, the null hypothesis was upheld, which proposed no significant interaction between roasting intensity, extract concentration, and antimicrobial activity against *Staphylococcus aureus* and *Escherichia coli*. The results imply that *Coffea liberica*(Liberian Coffee) extracts have no antimicrobial activity against these specific bacteria under the conditions examined. Future research could investigate alternative extraction methods, higher extract concentrations, or additional bacterial species to fully assess *Coffea liberica*'s (Liberian Coffee) antimicrobial properties.

4.0 Conclusion

The study investigated the antimicrobial effects of *Coffea liberica* (Liberian coffee) extract against *Escherichia coli* and *Staphylococcus aureus*, revealing no significant inhibitory impact on these microorganisms. Regardless of the concentration of the *Coffea liberica* extract, the results consistently showed no antimicrobial activity. Specifically, *Staphylococcus aureus* exhibited no inhibition zones when exposed to light roast *Coffea liberica* extract at concentrations of 25%, 50%, 75%, and 100%, aligning with the negative control's inhibition zones. Similarly, dark roast *Coffea liberica* extract at the same concentrations demonstrated no inhibitory effect on *Staphylococcus aureus*.

The results were analogous to *Escherichia coli*, which showed no inhibition when exposed to light or dark roast Coffea liberica extract at any tested concentrations.

The researchers concluded that both *Staphylococcus aureus* and *Escherichia coli* are not susceptible to the antimicrobial properties of *Coffea liberica* extracts, regardless of the roasting level and concentration. Despite the negative findings, this study contributes valuable knowledge by identifying the limitations of *Coffea liberica* as an antimicrobial agent against these particular bacteria. The results provide a reference point for future studies, suggesting that similar methodologies can be refined to achieve more definitive outcomes.

Future research is recommended to use fresh coffee beans, as this might alter the negative results observed in the current study. Additionally, exploring different types or sources of *Coffea liberica* or other emerging microorganisms beyond *Staphylococcus aureus* and *Escherichia coli* could offer a more comprehensive understanding of the antimicrobial potential of *Coffea liberica* extracts. Employing alternative extraction techniques and solvents, such as ethanol, methanol, or even acetone, might enhance the antimicrobial effectiveness of the *Coffea liberica*.

Addressing these concerns in future studies could unlock the potential of *Coffea liberica* as an antimicrobial agent. Extensive research encompassing a broader range of microbes, standardized procedures, and varied extraction techniques will significantly enhance our understanding. Such studies are crucial, particularly in the urgent need for sustainable antimicrobial solutions to combat the escalating issue of antimicrobial resistance.

5.0 Contributions of Authors

The researchers have equally contributed to the conception until the finalization of this research.

6.0 Funding

The researchers declare no special funding for this research.

7.0 Conflict of Interests

The researchers declare no conflicts of interest about the publication of this paper.

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Factors Causing Delays Between Surgeries in a Government Medical Center: A Cross-Sectional Study

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Abstract. Efficient OR management is crucial for delivering high-quality healthcare. This study investigated the root causes of turnover time delays in the Operating Room (OR) during elective surgeries. This research aimed to identify factors contributing to unwarranted delays in OR turnover time and proposes targeted solutions to enhance operational efficiency. The study used a cross-sectional design to focus on elective general surgery cases over six months. Data is derived from narrative reports by operating room staff, documenting turnover times and factors causing delays. Analysis of this six-month data highlights anesthesia and hospital-related factors as primary contributors to turnover time delays. Anesthesia-related factors account for delays ranging from 130 to 1,302 minutes, while hospital-related factors contribute between 145 and 1,860 minutes of delay. The findings underscore the multifaceted nature of elective surgery delays, driven by various factors. The study recommends a holistic approach, including optimizing staffing, streamlining processes, enhancing communication, improving emergency readiness, and embracing continuous improvement to address these delays effectively. Implementing these strategies can increase efficiency, ensure timely surgeries, and optimize resource allocation in the OR.

Keywords: Anesthesia-related factors; Cross-sectional study; Elective surgeries; Hospital-related factors; Operating room.

1.0 Introduction

The Operating Room (OR) comprises a collaborative effort in which two or more people identify common goals and work together to achieve them (Halverson et al., 2011). One component of the Operating Room is the health care team, broadly defined, encompassing all professionals involved with the patient, those who have direct patient contact, and those who work in other departments and contribute indirectly to patient care (Wong et al., 2010; Palter et al., 2020). Additionally, the most critical resources of the Operating team or health care team are the knowledge and experience of the constituent clinicians — the surgeons, anesthesiologists, nurses, and others (Donham et al., 1999; Mazzei, 1994).

The productivity in the Operating Room depends on the efficiency and organization of related functions within the Operating Room (Gupta et al., 2011). To complete defined tasks as a unified entity, team members should communicate and have a shared distribution of roles (Halverson et al., 2011; Kimbrough et al., 2015). The team approach to patient care should be a well-coordinated effort involving the participation of all caregivers (Panni et al., 2013). To work as a team, each member must try to achieve common goals competently and safely. Each team

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member's actions are critical. With the help of other teams and individuals, every person can achieve the goal (Santos-Jaén et al., 2022; Palter et al., 2020).

The Operating Room is the most efficient area of any medical facility (Panni et al., 2013). Although every time spent in the Operating Room is valuable, turnover time is notably significant because of the time lost due to inactivity (Cima et al., 2011; Does et al., 2009). Multidisciplinary teamwork is essential for its effective application, particularly in providing ancillary services that shorten the time spent waiting between surgeries (Porta et al., 2013; Head et al., 2011).

Excellent and efficient OR management is evidenced by rapid surgical turnover between surgeries. It measures how well a group works together to do its job in the OR. The study's goals are to assess what causes Operating Room turnover times to be longer than necessary and to provide solutions that will allow for the most efficient use of the OR resources with the support of the participation of all relevant parties. Through this framework, practitioners can identify specific measures to enhance, counteract, or eliminate these aspects to facilitate more efficient OR administration.

This research was instigated by our medical center's data that the times to turnover in the OR were way above the national average, hence decreasing overall surgical capacity and increasing patient wait time. The objectives of this study are to identify what factors are causing these delays and propose solutions for the optimization of the use of OR resources. Precisely, the current study aims at increasing the efficiency of OR management and better outcomes for patients by understanding and addressing these issues.

2.0 Methodology

2.1 Research Design

This study utilized a cross-sectional research design, considering Elective General Surgery cases from January to June 2023. Data were extracted from the existing narrative reports of Operating room staff. The researcher personally noted and measured turn-over times, and the factors causing their delay were recorded as variables.

2.2 Data Source

This study occurred in a government medical center's general surgery operating room. This operating room had the resources and personnel to accommodate all General Surgery Department elective patients. All elective cases of General Surgery from the period of January – June 2023 were included in the data gathering, during which the duration of each could vary significantly due to factors such as the surgeon's skill level, the complexity of the case, and the availability of materials required for the surgery. Each elective case in the mentioned duration of the study was noted, as well as the TOT. It encompassed all Elective General Surgery Department operations. General surgery procedures commonly involve the use of general anesthesia. However, the turnover time was typically calculated from the time ended (first case) to the time of anesthesia induction in the succeeding case. It is important to note that the induction time, which referred to the period from the start of anesthesia administration to the patient's readiness for surgery, did not vary based on the type of anesthesia employed. All emergency and direct-to-operating-room operations performed by the General Surgery Department were not considered. Hence, a non-general surgery case was not a priority in observing the TOT. The current study also emphasized that procedures done by other cutting specialties were excluded. No sampling technique was used in this investigation, and no reference group was chosen.

2.3 Data Gathering

Data were gathered from the narrative reports the Duty Team leaders of nurses made every after their shift. These data were stored in the Operating Room Nurse's office and could be accessed through properly asked and endorsed permission. These data were also printed, and hard copies were available for data verification at the OR Chief Nurses' Office. The narrative report contained information regarding the process flow of the operating room, which included the time of the patient's arrival at the Operating Room, the time of the arrival of the surgeon and anesthesia staff, and, most importantly, it contained the time when the surgery started and when it ended. It was also recorded in the narrative report every time there was an undue delay in the turn-over time, of which the cause was highlighted and reported. The turn-over time and the reasons for Turnover time delays were recorded. The data were then placed in Microsoft Excel 2016 for data processing.

2.4 Data Analysis

The frequency and causes of delay in the Department of General Surgery's Turnover time between two elective surgeries were determined through data analysis. The causes for each surgeon, anesthetic, patient, and hospital-related delay were noted, tabulated, and calculated using Microsoft Excel 2016. Recording did not require any coding manual because data were assigned absolute numbers. Data collected were gathered and encoded in the Researcher's personal laptop computer with a secure password to protect its integrity and privacy.

Analysis processing was performed by counting the frequency of the factors mentioned above, highlighting the most frequent or the most common cause of TOT delay. This was then plotted in a table and presented in a pie graph to represent the proportional data or relative data in a single chart showing the percentage of the most common or frequent cause of TOT delay as data from the whole pie. The whole pie was comprised of the factors causing the delay in TOT.

The TOT between procedures was also noted and recorded in a separate Microsoft Excel 2016 sheet. TOT's mean and standard deviation (measured in minutes) were then determined. The result served as a benchmark TOT for this institution or at least an accepted TOT by the accepted mean TOT of 45 minutes (Dexter et al., 2005; Porta et al., 2013). The analysis was done using Microsoft Excel 2016.

2.5 Ethical Considerations

Because this research was integral to the quality enhancement initiative and services, obtaining necessary approvals and observing all relevant ethical guidelines was essential. Furthermore, the issue of waiver/consent not being necessary in this study was supported by the fact that Turnover time was currently recorded by Supervisory nurses who were on duty. These nurses were tasked to facilitate the Operating Room procedures and traffic the flow of transition between 2 surgeries, during which the causes of delays were also recorded. Hence, this study was within the working norm of the operating room where surgeons, anesthesia specialists, nurses, and staff were all aware of their tasks and duties and had knowledge of the existing operating policy, including recorded Turnover time. The main emphasis of this study was to identify the most frequent cause of these delays. This increased value and added more precise and unbiased information to an existing operating room policy.

The researcher guaranteed that the collected data would be securely stored and protected according to data privacy regulations to establish a reliable data management and disposal strategy. The information was solely utilized for this research. Once the analysis and results were obtained, they were presented in their original form. It was then at the administration's discretion to take action if significant findings emerged that necessitated interventions to enhance the flow and productivity of the operating room.

3.0 Results and Discussion

3.1 Factors Prolonging Turnover Time

Data Gathered from January 2023 – June 2023

Table 1. Factors prolonging turnover time based on the data gathered from January 2023

Factors	Frequency	Percentage	Mean	SD
Surgeon related	0	0		
Anesthesia-related	2	50	68.75 minutes	1.1545
Patient-related	0	0		
Hospital related	2	50		

Data in Table 1 offer valuable insights into the factors affecting the prolongation of turnover time in January 2023. Anesthesia-related and hospital-related factors each accounted for 50% of the total time. Additionally, the means indicate the average additional time attributed to these factors, with anesthesia-related factors contributing an average of 130 minutes and hospital-related factors contributing an average of 145 minutes.

In February 2023, an examination was conducted to identify and analyze the factors contributing to prolonging turnover during medical procedures. Table 2 provides detailed information on each factor's frequency, percentage, mean, and minute standard deviation.

Table 2. Factors prolonging turnover time based on the data gathered from February 2023

Factors	Frequency	Percentage	Mean	SD
Surgeon related	0	0		
Anesthesia-related	4	40	207.7	3.000
Patient-related	0	0	minutes	
Hospital related	6	60		

These data offer significant insights into the factors influencing the prolongation of turnover time in February 2023. Notably, hospital-related factors had the most substantial impact, accounting for 60% of the total time, with an average additional time of 1,682 minutes. Anesthesia-related factors also significantly contributed 40% to the total time, with an average of 395 additional minutes. The means suggest variations in the extent of time prolongation within these categories during the specified period.

Table 3. Factors prolonging turnover time based on the data gathered from March 2023

Factors	Frequency	Percentage	Mean	SD
Surgeon related	1	12.5		
Anesthesia-related	3	37.5	281.25	1.8256
Patient-related	0	0	minutes	
Hospital related	4	50		

In March 2023, a comprehensive analysis was conducted to identify and assess various factors contributing to prolonging turnover time during medical procedures. Table 3 shows the frequency, percentage, mean, and standard deviation for each factor measured in minutes. These data offer valuable insights into the factors influencing the prolongation of turnover time in March 2023. Hospital-related factors had the most significant impact, accounting for 50% of the total time, with an average additional time of 1,860 minutes. Anesthesia-related factors also played a substantial role, contributing 37.5% to the total time, with an average of 270 additional minutes. Surgeon-related factors accounted for 12.5% of the total time, with an average of 120 additional minutes. Patient-related factors did not contribute to the prolongation of turnover time during this period.

Table 4. Factors prolonging turnover time based on the data gathered from April 2023

Factors	Frequency	Percentage	Mean	SD
Surgeon related	3	23.1		
Anesthesia-related	7	53.8	100	2.6299
Patient-related	2	15.4	minutes	
Hospital related	1	7.7		

In April 2023, a comprehensive examination was conducted to analyze and identify the factors contributing to prolonging turnover time during medical procedures. Table 4 presents a detailed breakdown of each factor's frequency, percentage, mean, and standard deviation, measured in minutes. These data offer valuable insights into the factors influencing the prolongation of turnover time in April 2023. The data indicates that anesthesia-related factors had the most significant impact, contributing 53.8% to the total time, with an average additional 670 minutes. Surgeon-related factors accounted for 23.1% of the total time, with an average of 190 additional minutes, while patient-related factors contributed 15.4% to the total time, with an average of 90 additional minutes. Hospital-related factors had the least impact, accounting for 7.7% of the total time, with an average additional time of 350 minutes.

Table 5. Factors prolonging turnover time based on the data gathered from May 2023

Factors	Frequency	Percentage	Mean	SD
Surgeon related	1	6.3		
Anesthesia-related	11	68.8	120.75	4.6904
Patient-related	2	12.5	minutes	
Hospital related	2	12.5		

In May 2023, an in-depth analysis was conducted to identify and assess the factors contributing to prolonging Turnover time during medical procedures. Table 5 provides a detailed breakdown of each factor's frequency,

percentage, mean, and standard deviation, measured in minutes. These data offer valuable insights into the factors affecting the prolongation of turnover time in May 2023. Notably, anesthesia-related factors had the most substantial impact, accounting for 68.8% of the total time, with an average additional time of 1,302 minutes. Surgeon-related factors contributed to 6.3% of the total time, with an average of 90 additional minutes. Patient-related factors accounted for 12.5% of the total time, with an average of 80 additional minutes, while hospital-related factors also contributed 12.5% to the total time, 460 minutes.

Table 6. Factors prolonging turnover time based on the data gathered from June 2023

Factors	Frequency	Percentage	Mean	SD
Surgeon related	0	0		
Anesthesia-related	7	63.6	91.27 minutes	2.9860
Patient-related	2	18.2		
Hospital related	2	18.2		

In June 2023, a comprehensive analysis was conducted to identify and evaluate the factors contributing to prolonging turnover during medical procedures. Table 6 provides detailed information on each factor's frequency, percentage, mean, and minute standard deviation. These data points offer valuable insights into the factors influencing the prolongation of Turnover time in June 2023. Among the factors examined, anesthesia-related factors had the most substantial impact, accounting for 63.6% of the total time, with an average additional time of 562 minutes. Patient-related factors contributed to 18.2% of the total time, with an average of 172 additional minutes, while hospital-related factors also accounted for 18.2% of the total time, with an average additional time of 270 minutes. Surgeon-related factors did not contribute to the prolongation of TOT during this particular period.

A trend over six months of data, from January to June 2023, shows that factors contributing to prolonged turnover periods between operating room cases remain highly variable on a month-to-month basis. These variance attributes to seasonal fluctuations of type and volume of surgeries performed. Staffing levels and experience, as well as the allocation of resources in general and equipment in particular, have shifted. For example, months when the more junior anesthetists are on duty or when there is a higher influx of complex surgeries that prolong set-up time can ultimately increase anesthesia-related percent delays.

External variables, such as public holidays, training periods, and changes in hospital policy, have also influenced these shifts, as the existence of inconsistencies in the gathering of information. It then becomes possible for hospital management to plan and hence avoid the issues responsible for increasing turnover times, in return facilitating more consistent and less wasteful operating room operations and hence better results on patient care.

Summary of Causes of Delay

Figure 1 provides a visual breakdown of the various causes of delays in the healthcare setting. Anesthesia-related issues are the most prominent cause, followed by hospital-related delays, patient-related factors, and surgeon-related delays, which contribute the least to delays in elective procedures.

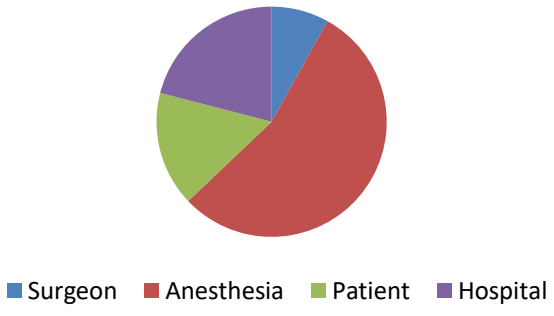

Figure 1. Distribution of the causes of delay

Anesthesia-related factors constitute the largest segment of the pie, representing approximately 52.7% of all delays attributed to anesthesia-related issues. These delays may arise from factors such as the unavailability of anesthesia providers or the time taken for patient induction. Hospital-related factors are the second-largest segment, comprising around 18.2% of all delays, representing hospital-related factors. These delays can stem from staffing shortages or resource constraints within the hospital setting. Patient-related factors account for roughly 13.1% of all delays and represent patient-related factors. These delays may be linked to specific patient conditions or circumstances that require additional attention or preparation before surgery. Finally, surgeon-related factors comprised about 15.9% of all delays, corresponding to surgeon-related factors. Surgeon-related delays may result from the surgeon's availability, preparation time, or other factors specific to the surgical team.

3.2 Insights

The data covering six months highlights the occurrence of delays in a significant proportion of elective surgeries (about 25%) (Fu et al., 2020). These delays stem from various factors, including anesthesia-related issues, surgeon-related factors, patient conditions, and constraints within the hospital. This information underscores elective procedure delays' complex and multifaceted nature in healthcare settings. It is not a single problem but a combination of factors contributing to these delays, making it crucial to take a comprehensive approach to address them.

To enhance the efficiency and timeliness of elective surgeries, healthcare institutions must adopt a multifaceted approach encompassing various strategies. First and foremost, ensuring optimal staffing levels is paramount. Adequate staffing in critical areas such as anesthesia, surgery, and nursing departments is essential to meet the demands of both elective and emergency cases. Anesthesia providers, surgeons, and nursing staff are pivotal in ensuring surgeries proceed smoothly. When these departments are adequately staffed, the risk of delays due to staff shortages is significantly reduced (Vitez & Macario, 1998).

Process optimization is another key pillar of improvement. Streamlining preoperative processes, particularly patient induction and preparation, can substantially decrease anesthesia and patient conditions delays. This involves efficient scheduling, standardized procedures, and clear protocols to ensure patients are adequately prepared for surgery (Hommel et al., 2017). Healthcare institutions can improve overall efficiency and enhance patient care by minimizing unnecessary delays in the preoperative phase.

Effective communication and coordination are fundamental to the success of any surgical team (Chalya et al., 2011). Enhancing collaboration among surgical teams, anesthesiologists, and hospital staff is essential. This includes better scheduling practices, improved information sharing, and more transparent communication channels. When surgical teams are well-coordinated and have access to timely information, surgeries can be scheduled and executed with greater efficiency, reducing delays caused by miscommunication or logistical issues (Jung et al., 2019).

Emergency preparedness is crucial to ensuring that elective surgeries proceed as planned. Healthcare institutions must develop robust contingency plans and surge capacity protocols to address emergency cases without disrupting elective procedures (Mesic et al., 2022). These plans should involve allocating dedicated resources and teams to handle emergencies separately, allowing elective surgeries to continue as scheduled. Hospitals can maintain a balance between elective and emergency cases by having clear and well-rehearsed emergency procedures in place.

Continuous improvement is the final but ongoing element of the strategy. Regularly analyzing data on delayed procedures is vital for identifying trends and implementing measures for improvement (Huda, 2014). This data-driven approach allows healthcare institutions to pinpoint recurring issues, assess the effectiveness of implemented strategies, and make necessary adjustments. Continuous improvement fosters a culture of learning and adaptation, ultimately leading to more efficient and timely elective surgeries (Koushan et al., 2021).

Addressing delays in elective surgeries requires a comprehensive approach encompassing staffing levels, process optimization, communication and coordination, emergency preparedness, and a commitment to continuous

improvement. By implementing these strategies, healthcare institutions can enhance the quality of patient care, optimize resource utilization, and reduce delays in elective surgical procedures (Briggs et al., 2011).

4.0 Conclusion

The analysis of the data offers a comprehensive strategy for improving the efficiency and timeliness of elective surgeries within an operating room setting. Firstly, determining the average turn-over time between elective cases is crucial in gauging operational efficiency. This measure provides insights into how long it takes to prepare the operating room between procedures and serves as a baseline for improvement. Secondly, identifying the major factors affecting turnover time, including Surgeon-related, Anesthesia-related, Patient-related, and Hospital-related delays, allows healthcare institutions to pinpoint areas requiring intervention. By calculating the total time attributed to each factor and assessing their relative impact, it becomes evident that Anesthesia-related issues are the most prevalent contributors to delays. Lastly, focusing on targeted solutions, such as increasing anesthesia staffing, streamlining preoperative processes, enhancing communication and coordination, and developing robust emergency preparedness plans, offers a practical roadmap for addressing the most common factor causing undue delay—anesthesia-related issues. Implementing these solutions can lead to more efficient operating room management, smoother case transitions, and improved resource allocation. Continuous data analysis and ongoing efforts for improvement are essential components of this strategy, enabling healthcare institutions to adapt to evolving circumstances and consistently enhance their elective surgery processes.

5.0 Contributions of Authors

Philmed P. Salindo –conception of research, conduct of research, writing the research report, Philner P. Salindo -data analysis, interpretation of data, proof reading, manuscript writing.

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7.0 Conflict of Interests

The authors declare no conflicts of interest about the publication of this paper.

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English Teachers' Grammar Approaches and Grade 8 Students' Grammar Skills in Cluster 7 in the Division of Santa Rosa

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Abstract. This study investigated the relationship between English teachers' grammar approaches and the Grade 8 students' grammar skills in cluster 7 in the Division of Santa Rosa City. A descriptive-correlational research design was employed, utilizing a survey questionnaire for data gathering. The mean, 4-point Likert scale, paired t-test, and Pearson Product Moment Correlation Coefficient were utilized as a statistical treatment. The findings derived from the SOP were highly utilized and extensively applied in practice. The generated computed probability values of grammar approaches such as Deductive-.298, Inductive-.144, Functional-Notional-.865, Situational Context-.342, through Texts-.961, and through Stories-.469. There was no significant difference between the two variables. Students' average grammar skill performance was 86.28, and they were proficient. Regarding using grammar approaches and skills, the r values ranging from .224 to .341 were interpreted as having a low positive correlation. The computed probability values .000 and .001 were lesser than the level of significance ($P<0.05$); thus, the null hypothesis was rejected. Therefore, the result showed a significant relationship between the two variables. It was concluded that there was a need for strategies to address and provide reinforcement of students' grammar shortcomings and ineptitude. In addition, as for the output, it was suggested that students' English proficiency enhancement and advancement for teachers' grammar approaches be implemented in the teaching-learning process.

Keywords: English teachers; Grade 8 students; Grammar approaches; Grammar skills.

1.0 Introduction

The significance of learning English grammar extends beyond the classroom, impacting students, educators, and the public. English is a crucial communication tool in various contexts, making it a universal language. In educational settings, English is a core subject demanding significant attention from teachers to ensure students develop strong language skills. Teaching grammar is paramount in this endeavor, enabling learners to acquire and apply the target language effectively in real-life situations. Each language has a unique grammatical structure, making grammar comprehension essential for native and non-native speakers. Effective communication relies heavily on understanding and applying grammar rules, making it an indispensable language acquisition component.

In a globalized world characterized by rapid technological advancements, proficiency in English communication has become increasingly vital for success in education, entrepreneurship, and international trade. Research in the

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field of language education, such as the study by Pawlak (2021), highlights the importance of diverse theoretical perspectives to enhance grammar teaching. These perspectives emphasize the need for communicative approaches that enable learners to apply grammar rules effectively in real-world interactions. Furthermore, the study by Pablo (2022) underscores the transformative impact of the Internet, which has bridged geographical barriers and facilitated access to English language education globally. The English language market is projected to experience significant growth, reaching $54.92 billion globally by 2027 (Meticulous Research, 2020), further emphasizing the demand for skilled English language teachers.

In the Philippines, English has long been a cornerstone of many academic programs, serving as the primary medium of instruction across a wide range of subjects, including science and mathematics. Filipinos are widely recognized for their fluency in English, often attracting foreign learners seeking an affordable and effective alternative to studying abroad. Building upon the findings of Pablo (2020), which highlighted the affordability of English language instruction in the Philippines, the market has evolved to include competition from native or English-native-sounding teachers at competitive rates. A recent study evaluating the grammar skills of 401 Filipino English teachers revealed a concerning trend: 90% of respondents failed to achieve a score of 75% or higher, demonstrating a lack of proficiency in fundamental grammar, particularly in the use of verbs and adverbs. This underscores the need for Filipino English teachers to critically assess their English proficiency, identify areas for improvement, and engage in ongoing professional development to maintain competitiveness in the evolving landscape of English language instruction. Teaching grammar in the Philippines presents unique challenges, including addressing concerns about teaching quality and regional accents. The presence of diverse dialects, characterized by variations in diction, sound, tone, and accent, can impact the acquisition and application of standard English. Teachers must be sensitive to the needs of learners and address grammar issues effectively, recognizing that the rules governing sentence formation can be complex and subject to debate. As Wyse (n.d.) notes, English's perceived "correctness" often sparks discussions and judgments, highlighting the importance of clear and consistent instruction.

Rossiter's (2021) study on "The Importance of Grammar" highlights a critical distinction between grammar pedagogy and linguistic analysis. While often conflated, these two areas are fundamentally distinct. Linguistic analysis critically evaluates language use, examining how grammar rules are applied or disregarded. However, such analysis can be confusing for average learners, potentially hindering rather than aiding their understanding. Effective grammar instruction, on the other hand, focuses on the fundamental rules and conventions that underpin everyday language use, empowering students to develop strong literacy skills.

This study aims to investigate the role of teachers' grammar skills in shaping students' language development. With over six years of experience teaching at Santa Rosa Science and Technology High School, the researcher has observed a direct correlation between students' proficiency in English grammar and their overall academic performance. This observation suggests that similar trends may exist in other schools within Cluster 7, prompting an exploration of the potential impact of teaching approaches on students' grammar skills. The awareness of using grammar correctly is directly linked to teachers' instructional approaches and students' responses to those approaches. Educators often express concerns about the effectiveness of grammar instruction, recognizing the need for engaging strategies that motivate learners to develop strong grammar skills. This study aims to bridge this research gap by investigating the relationship between teachers' grammar approaches and students' grammar proficiency, offering valuable insights for improving English language education in the Philippines.

This study sought to determine the correlation between the utilization of teachers' grammar approaches and students' grammar skills in Cluster 7 of the Division of Santa Rosa City. The teacher led the advancement of students' learning process to ensure their improvement in their grammar skills; therefore, it was helpful to improve their strategy in teaching grammar. The study aimed to understand how teachers' instructional practices influence students' grammar proficiency, recognizing the crucial role teachers play in advancing students' learning and ensuring their improvement in grammar skills. It recommended that English teachers consider the pedagogical and professional contexts of English grammar instruction to enhance students' grammar skills. This study also aimed to provide the Division of Santa Rosa and its teachers with alternative approaches to grammar instruction, ultimately developing a proposed framework for grammar learning that addresses students' needs and enhances their assessment capabilities.

2.0 Methodology

2.1 Research Design

This study employed a descriptive-correlational research design to investigate the relationship between English teachers' grammar approaches and students' grammar skills. This design aimed to define how these variables relate without assuming causation, providing a comprehensive and objective understanding of the situation. The research was carefully designed to ensure a thorough explanation of the findings, eliminate any bias in data collection, and minimize the potential for misinterpretation. The data collected was analyzed to highlight the key aspects of the information gathered. As suggested by Fowler (2013, as cited in IvyPanda.com, 2023), this approach allows for using statistical data independently or in conjunction with other research initiatives to reach robust conclusions. The analysis also aimed to identify the characteristics of the participants, ensuring a thorough understanding of the individuals involved in the study. By thoroughly analyzing each variable before concluding, the research sought to verify and validate existing circumstances, ultimately contributing to a more credible understanding of the relationship between teachers' grammar approaches and students' grammar skills. This design provided a clear and insightful framework for exploring the nature of the connection between these two key variables.

2.2 Research Locale

This study was conducted in Cluster 7 Public Secondary Schools within the Division of Santa Rosa City, Laguna Province, Philippines. The selection of schools in this specific cluster was driven by the need for data relevant to the research question and the logistical convenience of conducting the study in a location where the researcher was already an active teacher at Santa Rosa Science and Technology High School. The study's locale encompassed two public schools within Cluster 7: Santa Rosa Science and Technology High School and Sinalhan Integrated School. This selection enhanced the relevance and significance of the study by focusing on a specific cluster known for its access to quality educational resources, allowing for a focused examination of the effectiveness of grammar usage among English Language Teachers and the level of students' grammar skills within this context.

2.3 Research Participants

The study's target population comprised all JHS English teachers (n=10) and Grade 8 students (n=547) within Cluster 7 of the Division of Santa Rosa City. Purposive sampling was employed to select participants who met specific criteria relevant to the research question. As described by Thomas (2022), this method allowed for selecting respondents based on their knowledge and experience related to the study's focus on grammar approaches and skills. This sampling method ensured the selection of respondents well-versed in the study's topic, allowing for a more in-depth examination of the relationship between teachers' grammar approaches and Grade 8 students' English grammar skills. While purposive sampling differs from stratified sampling, selecting a representative sample enabled the study's findings to be generalized to the broader population of respondents within Cluster 7 of the Division of Santa Rosa City. The study included JHS English teachers and Grade 8 students from Santa Rosa Science and Technology High School (SRSTHS) and Sinalhan Integrated High School (SIHS). Of the 248 students at SRSTHS, 179 participated, along with 4 JHS English teachers. At SIHS, 46 out of 299 students participated, along with six teachers. The teachers were categorized as Teacher I (n=9) and Teacher II (n=1), with 4 Teacher I positions filled at SRSTHS and five at SIHS. A total of 10 teachers and 221 students participated in the survey, representing a subset of the overall population. All student respondents were enrolled in Cluster 7 public secondary schools within the Division of Santa Rosa City during the 2023-2024 school year.

2.4 Research Instrument

This study employed a questionnaire to gather data on teachers' grammar approaches and students' grammar skills. The instrument's content and analysis were clearly defined to ensure a focused and systematic approach to data collection. The study's primary objectives were: (a) to assess teachers' grammar approaches, this objective aimed to measure the frequency and types of grammar approaches employed by teachers in the classroom, including explicit and implicit instruction, inductive and deductive approaches, and focus on form versus focus on meaning; (b) investigating the relationship between teachers' grammar approaches and students' grammar skills, this objective sought to examine the correlation between teachers' reported grammar approaches and students' performance on a standardized grammar skills assessment. The goal was to determine if certain approaches were more effective than others in promoting students' grammar development. (c) This objective

aimed to assess students' understanding of grammar skills and the application of various grammatical concepts, including subject-verb agreement, adverbs and adjectives (modifiers), conjunctions, and parallel structure.

The teacher survey questionnaire included sections on demographic information (e.g., school, years of experience, subject taught, position, educational attainment) and grammar teaching practices/approaches (e.g., deductive, inductive, functional-notional, situational context, through text, through stories). The student survey questionnaire included demographic information (e.g., age, gender, grade level, school) and a grammar skills assessment consisting of multiple-choice questions to assess students' understanding of English structure, ability to identify and correct grammatical errors, and application of grammar rules in writing communication. To ensure the validity and reliability of the instrument, a pilot test was conducted with a sample group of teachers and students to identify any potential issues and make necessary revisions. Data analysis was meticulously planned and executed to accurately measure the study's objectives and provide answers to the research questions.

The instrument, developed as a researcher-made test, was tailored to the specific research questions and objectives, aiming to gather valuable data on teachers' grammar approaches and students' grammar skills, ultimately contributing to a deeper understanding of grammar teaching and learning. A researcher-made test instrument was utilized to evaluate the independent variable, "English Teachers' Grammar Approaches." The wording of questions and prompts was carefully considered and adjusted based on individual usage patterns to ensure that the evaluation reflected the dynamic nature of teachers' grammar approaches and effectively assessed students' knowledge. The multiple-choice test was administered to Grade 8 respondents. The completed tests were collected from the participating schools in Cluster 7 of the Division of Santa Rosa City, prioritizing the researcher's and respondents' confidentiality and integrity. This instrument, designed to determine the relationship between teachers' grammar approaches and students' grammar skills, aimed to provide precise and comprehensive statistical data based on the collected facts and information.

2.5 Data Gathering Procedure

This study employed a systematic approach to data collection, adhering to established research methodologies. A comprehensive review of relevant literature and studies was conducted to inform the development of the survey questionnaire, providing a foundation for understanding existing research on teachers' grammar approaches and students' grammar skills. Two researcher-made tests were created, one for teachers and one for students, designed to gauge participants' progress in developing their respective areas of expertise. Ethical considerations were paramount, with necessary permissions and approvals from the Dean, Division Superintendent, school administrators/principals, and participating respondents. Throughout the research process, the researcher sought advice and feedback from a research advisor, validator, statistician/analyst, and research director, ensuring the accuracy and validity of the findings. This collaborative approach enhanced the study's academic rigor. It contributed to a deeper understanding of the relationship between teachers' grammar approaches and students' grammar skills in Cluster 7 of the Division of Santa Rosa City.

2.6 Ethical Consideration

This research study adhered to the ethical guidelines outlined in the Research Manual of Laguna College of Business and Arts-School of Graduate Studies, ensuring the ethical conduct of the research throughout its entirety. The study prioritized participant rights and welfare, incorporating the following ethical considerations: Participants were fully informed about the nature and purpose of the study, potential risks and benefits, and their right to withdraw from participation at any time. Informed consent was obtained from all Santa Rosa Science and Technology High School participants and Sinalhan Integrated High School before data collection commenced. The study protected the privacy and confidentiality of participants' data, adhering to the Data Privacy Act of 2012 standards in the Philippines. All data was anonymized and securely stored, ensuring that individual identities were not disclosed. Participants were assured that their participation in the study was entirely voluntary and that there were no negative consequences for declining participation. By adhering to these ethical principles, the study aimed to uphold the highest standards of moral behavior, safeguard participant rights and welfare, and deliver reliable and trustworthy results. This commitment to ethical research practices ensured the integrity and credibility of the study's findings.

3.0 Results and Discussions

3.1 Teachers' Utilization of Grammar Approaches

In terms of the Deductive Approach

Table 1 indicates that the Deductive Approach was highly Utilized by teachers, with all indicators receiving a composite mean score of 3.53 or higher, signifying strong agreement or high utilization. The indicator "In teaching grammar, I make all learners actively involved, attentive, and motivated in teacher's classes" achieved the highest composite mean of 3.62, highlighting the importance of engaging students in learning. The indicator "In teaching grammar, I approach activities that are suitable for proficiency level of grammar skills through using a deductive method, a rule is first presented, then instances of how the rule is used are given" had the lowest composite mean of 3.45, suggesting that while the deductive approach was widely used, teachers needed to explore further ways to tailor activities to different proficiency levels.

Table 1. Descriptive statistics of the level of teachers' utilization of grammar approaches in terms of the deductive approach

Indicators	Teacher		Students		Composite	
	Mean	**Interpretation**	**Mean**	**Interpretation**	**Mean**	**Interpretation**
1. Present the rules first, and then how the rules used are given.	3.60	Highly Utilized	3.30	Highly Utilized	3.45	Highly Utilized
2. Use English grammar that can be explained more quickly and easily than elicited from examples.	3.60	Highly Utilized	3.44	Highly Utilized	3.52	Highly Utilized
3. Identify the students' cognitive value by acknowledging their ability and understanding the language acquisition processes.	3.70	Highly Utilized	3.48	Highly Utilized	3.59	Highly Utilized
4. Discuss how to be more creative using English grammar, which students expect to acquire knowledge analytically.	3.70	Highly Utilized	3.45	Highly Utilized	3.58	Highly Utilized
5. Address the learner's needs to prepare for language points in advance.	3.60	Highly Utilized	3.41	Highly Utilized	3.50	Highly Utilized
6. Use the rules of form, including its features.	3.50	Highly Utilized	3.45	Highly Utilized	3.48	Highly Utilized
7. Help improve grammar skills by using this approach to fix mental structures.	3.50	Highly Utilized	3.42	Highly Utilized	3.46	Highly Utilized
8. Make all learners actively involved, attentive, and motivated in teacher's classes.	3.70	Highly Utilized	3.53	Highly Utilized	3.62	Highly Utilized
9. Assess the students' use of the patterns in English classes, as this helps them improve their speaking and listening and develop their English grammar skills.	3.50	Highly Utilized	3.46	Highly Utilized	3.48	Highly Utilized
10. Use clues and hints to make grammar easy and simple to understand.	3.70	Highly Utilized	3.45	Highly Utilized	3.58	Highly Utilized
Overall Assessment	**3.61**	**Highly Utilized**	**3.44**	**Highly Utilized**	**3.53**	**Highly Utilized**

Legend: 3.25 – 4.00 = Highly Utilized, 1.75 – 2.49 = Slightly Utilized, 2.50 – 3.24 = Utilized, 1.00 – 1.74 = Not Utilized

These findings suggested that the deductive approach was considered a highly effective method for teaching grammar in this context. Teachers perceived it as a motivating approach that empowers students to improve their grammar skills. The results indicated that teachers believe in students' capacity to learn grammar effectively through this approach, emphasizing the importance of providing clear rules and examples to guide students' understanding. These findings aligned with the insights provided by Blog (2023), which emphasized the importance of teachers providing clear rules and guidance to students, avoiding a "spoon-feeding" approach. By presenting rules first and then providing examples of their application, teachers enabled students to actively engage with the learning process and develop a deeper understanding of grammatical concepts.

In terms of the Inductive Approach

Table 2 indicates that teachers also highly utilized the inductive approach, with all indicators receiving a composite mean score of 3.54 or higher, resulting in strong agreement or high utilization. The indicator "In teaching grammar, I direct the learners' attention to precisely how the form choice affects the difference in meaning" achieved the highest composite mean of 3.61, highlighting the importance of emphasizing the connection between grammatical form and meaning. The indicator "In teaching grammar, I approach activities that are suitable for proficiency level of grammar skills through using an inductive method, provide rules that

will become as a result more valuable, significant, and unforgettable to learners" had the lowest composite mean of 3.39, implying that teachers needed to explore further ways to tailor activities to different proficiency levels and ensure that rules were presented in a way that makes them memorable and meaningful for students.

Table 2. Descriptive statistics of the level of teachers' utilization of grammar approaches in terms of the inductive approach

Indicators	Teacher		Students		Composite	
	Mean	Interpretation	Mean	Interpretation	Mean	Interpretation
1. Provide rules that will become more valuable, significant, and unforgettable to learners.	3.40	Highly Utilized	3.37	Highly Utilized	3.39	Highly Utilized
2. Help students to be actively participative in the learning process, which increases their likelihood of being more focused and motivated.	3.70	Highly Utilized	3.47	Highly Utilized	3.59	Highly Utilized
3. Explain the strategy that encourages pattern recognition and problem-solving, indicating that it best suits learners who appreciate this challenge.	3.60	Highly Utilized	3.46	Highly Utilized	3.53	Highly Utilized
4. Allow students to collaboratively address issues while using the main language to practice their language skills further.	3.70	Highly Utilized	3.45	Highly Utilized	3.57	Highly Utilized
5. Assess the student's ability to make decisions independently to develop greater self-reliance, which supports learners independently.	3.70	Highly Utilized	3.36	Highly Utilized	3.53	Highly Utilized
6. Guide the learners' growing understanding of the advantages of self-solving language issues; resistance is frequently reduced.	3.70	Highly Utilized	3.36	Highly Utilized	3.53	Highly Utilized
7. Create a scenario to "generate" multiple examples of a structure in sentences.	3.70	Highly Utilized	3.50	Highly Utilized	3.60	Highly Utilized
8. Interact with the students to enjoy learning with classmates that they were quickly embraced for use in classrooms.	3.70	Highly Utilized	3.33	Highly Utilized	3.51	Highly Utilized
9. Help draw different aspects of language learning, such as grammar, vocabulary, and pronunciation, to necessitate a foundational understanding of grammatical terminology on the learners' side, as is the case with all rule-explicit presentations.	3.70	Highly Utilized	3.45	Highly Utilized	3.58	Highly Utilized
10. Direct the learners' attention to how the form choice affects the difference in meaning.	3.70	Highly Utilized	3.51	Highly Utilized	3.61	Highly Utilized
Overall Assessment	**3.66**	**Highly Utilized**	**3.43**	**Highly Utilized**	**3.54**	**Highly Utilized**

While the inductive approach was widely used, it implied that the results suggested room for improvement in its implementation. Teachers needed to explore additional techniques to ensure the approach consistently achieved the desired learning outcomes. Encouraging learner participation and enhancing their engagement in the classroom facilitated by providing a positive assessment of grammar using this approach. The findings indicated that teachers were focused on providing meaningful exercises and drills to facilitate effective learning and understanding of grammar concepts. These findings aligned with the insights provided by Kunene and Mthethwa (2020), who studied the effectiveness of deductive and inductive approaches for teaching tenses in secondary school students. Their research suggested that integrating both methods can be more effective than relying solely on one approach. This finding underscored the importance of considering a blended approach to grammar instruction, incorporating both deductive and inductive strategies to cater to the diverse learning needs of students.

In terms of Functional-Notional Approach

Table 3 indicates that teachers highly utilized the functional-notional approach, with all indicators receiving a composite mean score of 3.44 or higher, resulting in strongly agreed or highly utilized. The indicator "In teaching grammar, I help students develop to adopt the meaning of language as an integral part of grammar" achieved the highest composite mean of 3.52, highlighting the importance of emphasizing the communicative function of grammar. The indicator "In teaching grammar, I approach activities that are suitable for proficiency level of grammar skills through using a functional-notional method, teach linguistics which are verbal expressions or claims that result from a function, a circumstance, or a topic" had the lowest composite mean of 3.32, implying

that teachers needed to explore further ways to tailor activities to different proficiency levels and ensure that the connection between function, circumstance, and topic was made clear for students.

While the functional-notional approach was widely used, the results implied a need to focus on assessments and strategies that emphasize learning grammar through examples and real-world applications. Teachers prioritized emphasizing definitions and word signals to stress the relevance of grammar concepts in real-life scenarios over verbal explanations. They aimed to enhance students' reasoning skills and communication abilities through diverse instructional methods to deepen their comprehension of grammar. Teachers facilitated and fostered a more profound knowledge of the subject by employing various methods of instruction.

Table 3. Descriptive statistics of the level of teachers' utilization of grammar approaches in terms of the functional-notional approach

Indicators	Teacher		Students		Composite	
	Mean	Interpretation	Mean	Interpretation	Mean	Interpretation
1. Explain that the employment of dialects, formality, or other linguistic features may change depending on the informal expression.	3.30	Highly Utilized	3.42	Highly Utilized	3.36	Highly Utilized
2. Teach linguistics, which are verbal expressions or claims that result from a function, a circumstance, or a topic.	3.20	Highly Utilized	3.43	Highly Utilized	3.32	Highly Utilized
3. Broaden students' view of the code of the shared language in a situation given.	3.50	Highly Utilized	3.30	Highly Utilized	3.40	Highly Utilized
4. Explain the functional categories of language in each example.	3.40	Highly Utilized	3.46	Highly Utilized	3.43	Highly Utilized
5. Utilize a language primarily curious about how to use language to establish meaning and draw attention to the issues and interests.	3.60	Highly Utilized	3.32	Highly Utilized	3.46	Highly Utilized
6. Explain language on what people should do and use the language for its purpose.	3.50	Highly Utilized	3.49	Highly Utilized	3.50	Highly Utilized
7. Help students develop to adopt the meaning of language as an integral part of grammar.	3.60	Highly Utilized	3.43	Highly Utilized	3.52	Highly Utilized
8. Assess students to develop language skills through criticism relevant to the studied content.	3.50	Highly Utilized	3.44	Highly Utilized	3.47	Highly Utilized
9. Contribute communicatively to the useful expression of teaching.	3.50	Highly Utilized	3.46	Highly Utilized	3.48	Highly Utilized
10. Include the different language categories to develop students' reasoning, investigative, and communication skills in the target language.	3.40	Highly Utilized	3.47	Highly Utilized	3.43	Highly Utilized
Overall Assessment	**3.45**	Highly Utilized	**3.42**	Highly Utilized	**3.44**	Highly Utilized

These findings aligned with the insights provided by TESOL/Notional-Functional Approach-Wikiversity (n.d.), which described the functional-notional approach as a method of organizing a syllabus based on "notions," or actual communication scenarios, which were then subdivided into "functions," or communication objectives. Teachers frequently used a real-world scenario as their "notion" while planning a session, selecting related functions to teach students to help them communicate in that scenario throughout the lesson. For example, asking prices is one of the functions of shopping, and if the lesson is on how to avail something at a store, one of its notions would be shopping. The findings suggested that teachers in Cluster 7 were incorporating elements of the functional-notional approach into their instruction. Still, there was a need to focus more on emphasizing communication rather than just memorizing grammatical rules.

In terms of Situational Contexts

Table 4 indicates that teachers highly utilized the situational context approach, with all indicators receiving a composite mean score of 3.54 or higher, suggesting strong agreement or high utilization. The indicator "In teaching grammar, I help students to contextualize the language to its meaning through the given statements and guide students to learn by utilizing the context in their understanding" achieved the highest composite mean of 3.60, highlighting the importance of emphasizing the connection between language and context. The indicator "In teaching grammar, I approach activities that are suitable for proficiency level of grammar skills through using a situational context, suggest the efficacy of increased knowledge in this approach" had the lowest composite mean of 3.44, suggesting that teachers needed to explore further ways to tailor activities to different situational needs and recognize effectively in language learning to see the relevance and application on their own.

While the situational context approach was widely used, the results implied that further opportunities to enhance its use in teaching grammar should be explored. Teachers provided examples of contextualized ideas from a given scenario before presenting them to the students to generate examples and develop understanding. With these, they formulated their context based on the given concept of examples. This approach was meaningful to the students as it allowed them to create and elaborate on their own experiences in real-life situations.

Table 4. Descriptive statistics of the level of teachers' utilization of grammar approaches in terms of the situational context

Indicators	Teacher		Students		Composite	
	Mean	Interpretation	Mean	Interpretation	Mean	Interpretation
1. Guide students to comprehend the content through contextualizing grammar usage.	3.60	Highly Utilized	3.45	Highly Utilized	3.53	Highly Utilized
2. Use the generative situation to structure the lesson in a sentence.	3.60	Highly Utilized	3.46	Highly Utilized	3.53	Highly Utilized
3. Help students contextualize the language's meaning through the given statements.	3.70	Highly Utilized	3.49	Highly Utilized	3.60	Highly Utilized
4. Generate examples to provide learners with data in its form.	3.60	Highly Utilized	3.54	Highly Utilized	3.57	Highly Utilized
5. Engage students to develop an understanding of problem-solving through the explanation in the context.	3.60	Highly Utilized	3.47	Highly Utilized	3.53	Highly Utilized
6. Guide students to learn by utilizing the context in their understanding.	3.70	Highly Utilized	3.50	Highly Utilized	3.60	Highly Utilized
7. Assess students to provide their dialogue and practice doing it out of context.	3.60	Highly Utilized	3.48	Highly Utilized	3.54	Highly Utilized
8. Utilize various instructions to let students explain and extend the rules using context.	3.70	Highly Utilized	3.41	Highly Utilized	3.56	Highly Utilized
9. Suggest the efficacy of increased knowledge in this approach.	3.40	Highly Utilized	3.48	Highly Utilized	3.44	Highly Utilized
10. Help students be more memorable to the learners' learning than simply explaining.	3.70	Highly Utilized	3.42	Highly Utilized	3.56	Highly Utilized
Overall Assessment	**3.62**	**Highly Utilized**	**3.47**	**Highly Utilized**	**3.54**	**Highly Utilized**

These findings aligned with the insights provided by Pielmus (2020), who described a situational presentation teaching approach, also known as a Presentation-Practice-Production approach, commonly used in English language learning environments. This type of instruction aims to introduce students to an example that will help them acquire the language they will use in class. As a result, this method of instruction enables students to learn new grammar concepts, which they will use throughout the session in both limited and unrestricted practice exercises. The findings suggested that teachers in Cluster 7 were incorporating elements of the situational context approach into their instruction. Still, there was a need for teachers to create a more dynamic and engaging learning environment that helps students develop their skills in a meaningful and relevant way.

In terms of Through Texts

Table 5 indicates that the "Through Text" approach was highly utilized by teachers, with all indicators receiving a composite mean score of 3.49 or higher, suggesting strong agreement or high utilization. The indicator "In teaching grammar, I provide students to use their comprehension for identifying grammar usage, encourage a favorable understanding of grammar using text in grammar teaching, and allow my students to learn knowledge on analyzing grammar" achieved the highest composite mean of 3.60, highlighting the importance of using text to develop students' comprehension and analytical skills in grammar. The indicator "In teaching grammar, I approach activities that are suitable for proficiency level of grammar skills through using text approach, give the learners a chance to learn and use their native languages in a classroom context" had the lowest composite mean of 3.30, suggesting that teachers may need to explore further ways to tailor activities to different proficiency levels and ensure that the connection between text and native language use is made clear for students. While the "Through Text" approach was widely used, the results suggested a need to explore further opportunities to enhance its use in teaching grammar.

Table 5. Descriptive statistics of the level of teachers' utilization of grammar approaches in terms of the through texts

Indicators	Teacher		Students		Composite	
	Mean	**Interpretation**	**Mean**	**Interpretation**	**Mean**	**Interpretation**
1. Offer grammar usage to help language learning and academic success.	3.50	Highly Utilized	3.57	Highly Utilized	3.53	Highly Utilized
2. Allow the learners to learn and use their native languages in a classroom context.	3.20	Highly Utilized	3.39	Highly Utilized	3.30	Highly Utilized
3. Acknowledge the text for linguistic structure.	3.30	Highly Utilized	3.42	Highly Utilized	3.36	Highly Utilized
4. Assist students in learning languages; it offers resources and information on grammar usage.	3.60	Highly Utilized	3.47	Highly Utilized	3.54	Highly Utilized
5. Teach grammar by asking students to examine the correct use of grammar.	3.40	Highly Utilized	3.52	Highly Utilized	3.46	Highly Utilized
6. Provide students with a way to use their comprehension to identify grammar usage.	3.60	Highly Utilized	3.50	Highly Utilized	3.55	Highly Utilized
7. Encourage a favorable understanding of grammar using text in grammar teaching.	3.60	Highly Utilized	3.49	Highly Utilized	3.55	Highly Utilized
8. Aid in developing the ability to comprehend the principles behind various grammar usage.	3.50	Highly Utilized	3.47	Highly Utilized	3.49	Highly Utilized
9. Allow my students to learn how to analyze grammar.	3.60	Highly Utilized	3.50	Highly Utilized	3.55	Highly Utilized
10. Help students gain more ideas using text to examine correct grammar usage.	3.60	Highly Utilized	3.48	Highly Utilized	3.54	Highly Utilized
Overall Assessment	**3.49**	**Highly Utilized**	**3.48**	**Highly Utilized**	**3.49**	**Highly Utilized**

It implied that using the entire text to increase students' comprehension of grammar was crucial when employing this approach in instruction. Deduction of meanings from unknown or unfamiliar phrases and incorporation of these into engaging activities helped highlight the language students used. They taught and practiced grammar in context, which is essential for developing fluency and understanding. These findings aligned with the insights provided by Qizi (2023), who argued that authentic texts were more effective than uniquely crafted EFL texts because they provided a more realistic and engaging learning experience. Authentic texts offered co-textual data, enabling students to infer the interpretation of unfamiliar grammatical terms from the surrounding text. They also demonstrated how language was used to exchange ideas in real-world contexts. The findings suggested that teachers in Cluster 7 were incorporating elements of the "Through Text" approach into their strategies. Still, there was a need to create a connection between students' interests and experiences to ensure their learning environment was effective.

In terms of Through Stories

Table 6 indicates that the "Through Stories" approach is highly utilized by teachers with all indicators receiving a composite mean score of 3.50 or higher, suggesting strong agreement or high utilization. The indicator "In teaching grammar, I analyze the use of grammar in each statement with the provided information" achieved the highest composite mean of 3.61, highlighting the importance of using stories to analyze and understand grammatical structures. The indicator "In teaching grammar, I utilize individualized feedback and practices grammar knowledge with stories" had the lowest composite mean of 3.40, suggesting that teachers needed to explore further ways to tailor activities to different proficiency levels and ensure that individualized feedback was provided to students when using stories to practice grammar. While the "Through Stories" approach was widely used, the results suggested a need to explore further opportunities to make it fun and interactive.

It implied that through stories, learners communicatively adopted the experiences of comprehending, relating, and exercising what they read. Stories helped them to reorganize and mold their knowledge in learning. Analyzing stories in their characterization based on the understanding of what they concluded from what they read helped them enrich their comprehension skills and adapt to learn grammar provided by the instructions through stories. It was a natural language acquisition where stories mirror how language was used in everyday communication, helping learners grasp grammar rules more naturally and intuitively. Exposure to authentic language usage and stories helped learners facilitate language acquisition and fluency.

Table 6. Descriptive statistics of the level of teachers' utilization of grammar approaches in terms of the through stories

Indicators	Teacher		Students		Composite	
	Mean	Interpretation	Mean	Interpretation	Mean	Interpretation
1. Help my students to comprehend grammatical objectives and work independently through reading stories.	3.50	Highly Utilized	3.45	Highly Utilized	3.48	Highly Utilized
2. Utilize individualized feedback and practice grammar knowledge with stories.	3.40	Highly Utilized	3.40	Highly Utilized	3.40	Highly Utilized
3. Guide students to the enrichment of instructions to provide grammar requirements by reading stories.	3.50	Highly Utilized	3.40	Highly Utilized	3.45	Highly Utilized
4. Equip students with options on what they study and how they learn it.	3.60	Highly Utilized	3.38	Highly Utilized	3.49	Highly Utilized
5. Provide opportunities for students to consider their education by reading stories.	3.70	Highly Utilized	3.45	Highly Utilized	3.58	Highly Utilized
6. Help learners to determine in formative assessment.	3.60	Highly Utilized	3.42	Highly Utilized	3.51	Highly Utilized
7. Keep learners interested; incorporate various activities and assessments through reading stories.	3.50	Highly Utilized	3.46	Highly Utilized	3.48	Highly Utilized
8. Allow the learners to select understanding objectives based on comprehending the grammar provided by the stories.	3.60	Highly Utilized	3.39	Highly Utilized	3.49	Highly Utilized
9. Offer possibilities for students to benefit from one another's knowledge.	3.50	Highly Utilized	3.49	Highly Utilized	3.49	Highly Utilized
10. Analyze grammar in each statement using the provided information.	3.70	Highly Utilized	3.52	Highly Utilized	3.61	Highly Utilized
Overall Assessment	**3.56**	**Highly Utilized**	**3.44**	**Highly Utilized**	**3.50**	**Highly Utilized**

Legend: 3.25 – 4.00 = Highly Utilized, 1.75 – 2.49 = Slightly Utilized, 2.50 – 3.24 = Utilized, 1.00 – 1.74 = Not Utilized

These findings aligned with the insights provided by Vandana (2022), who highlighted the benefits of storytelling in education. By telling stories, teachers helped students build relationships and acquire new experiences from peers. Narrating stories is a powerful method to share knowledge, mold experiences, and comprehend who they are about other people. Storytelling is a natural teaching strategy that helps students learn and retain information. Telling and listening to stories fosters creativity, motivation, and language skills while serving as a bridge between the fantastic and the actual world. Not only does storytelling support good curriculum acquisition and cognitive growth in the classroom, but it can also facilitate cross-cultural communication and language learning. The findings suggested that teachers in Cluster 7 were incorporating elements of the "Through Stories" approach into their instruction. Still, they needed to further develop their language skills, creativity, and critical thinking in focusing grammar lessons through engaging stories.

3.2 Grammar Skills of Grade 8 Students

Table 7. Descriptive statistics of the Grammar skills of grade 8 students based on a 50-item test

Grade	Indicators	Frequency	Percentage
90 – 100	Advanced	95	42.97%
85 – 89	Proficient	67	30.32%
80 – 84	Approaching Proficient	16	7.24%
75 – 79	Developing	16	7.24%
74 and below	Beginning	27	12.22%
Overall Performance		**86.28%**	

As shown in Table 7, Grade 8 students' overall grammar skills performance was assessed at 86.28%, interpreted as Proficient. Among the students, 95 individuals, accounting for 42.97%, were classified as Advanced, while 67 students, representing 30.32%, were categorized as Proficient. Additionally, 16 students, equivalent to 7.24%, were identified as Approaching Proficient and Developing, while 27 students, making up 12.22%, were categorized as Beginning. These results suggested that in Cluster 7 in the Division of Santa Rosa, a significant number of Grade 8 students demonstrated a strong grasp of grammar skills by engaging in activities incorporating unknown or unfamiliar phrases into interesting contexts. Their teachers were crucial in providing targeted practice and remediation, especially for students struggling with specific grammar concepts. Incorporating enhanced grammar instruction and practice into the curriculum, along with regular assessments to track progress and identify areas needing improvement, contributed to the student's current proficiency in English grammar.

Barman (2014, as cited in Pascual, 2021) observed that students' grammar skills did not significantly improve despite teachers' efforts in teaching grammar. This challenge often resulted in difficulties for students in accurately writing and speaking English, impacting their performance in various areas, including future employment opportunities. Paystrup (2014, as cited in Pascual, 2021) highlighted that the current state of grammar proficiency among students was concerning, emphasizing the need for enhanced grammar instruction in schools, especially in the ongoing technological revolution. These insights underscored the importance of continuous improvement in grammar instruction and the implementation of effective strategies to enhance students' grammar skills, ensuring that they are well-equipped for academic success and future endeavors in the ever-evolving landscape of language and communication.

3.3 Difference in the Assessments of the Grade 8 Students and Teachers Regarding the Utilization of Grammar Approaches

Table 8 shows no significant difference between the responses of Grade 8 students and teachers regarding the level of utilization of various grammar approaches. The computed probability values for the deductive approach (.298), inductive approach (.144), functional-notional approach (.865), situational contexts (.345), through texts (.961), and stories (.469) were all greater than the level of significance at 0.05. Therefore, the null hypothesis, which stated that there was no significant difference between the responses of the two groups, was accepted. This finding suggested that Grade 8 students and teachers employed similar grammar approaches in language usage or teaching-learning practices. The teaching methods used by the teachers were effectively transferred to the students, indicating a shared understanding and application of grammar principles in both writing and speaking. However, it was important to note that this similarity in approach did not necessarily imply equal proficiency in grammar. Rather, it suggested that both groups comparably utilized grammar approaches. This finding highlighted the importance of consistent grammar instruction that aligns with the approaches used by teachers.

Table 8. Analysis of the difference in the assessments of the grade 8 students and teachers regarding the utilization of grammar approaches

Sub-variables		Sum of squares	df	Mean square	F Ratio	Sig.	Remarks	Decision
Deductive Approach	Between Groups	0.275	1	0.275	1.089	0.298	Not Significant	Accept H_o
	Within Groups	57.57	228	0.253				
	Total	57.85	229					
Inductive Approach	Between Groups	0.518	1	0.518	2.152	0.144	Not Significant	Accept H_o
	Within Groups	54.88	228	0.241				
	Total	55.39	229					
Functional-Notional Approach,	Between Groups	0.008	1	0.008	0.029	0.865	Not Significant	Accept H_o
	Within Groups	60.22	228	0.264				
	Total	60.23	229					
Situational Contexts,	Between Groups	0.217	1	0.217	0.907	0.342	Not Significant	Accept H_o
	Within Groups	54.44	228	0.239				
	Total	54.66	229					
Through Texts	Between Groups	0.001	1	0.001	0.002	0.961	Not Significant	Accept H_o
	Within Groups	60.72	228	0.266				
	Total	60.72	229					
Through Stories	Between Groups	0.144	1	0.144	0.525	0.469	Not Significant	Accept H_o
	Within Groups	62.58	228	0.274				
	Total	62.72	229					

Level of significance 0.05

Moreover, it underscored the need for teachers to prioritize grammar instruction, as outlined by Ellis (2006, as cited in Musa, 2021), to ensure that learners develop accuracy in their language use. While words may be relevant and understandable, learners' accuracy can be lacking without a strong foundation in grammar. The study emphasized the importance of teaching grammar both "about" and "apart from" language use, providing students with a comprehensive understanding of grammatical concepts and their application in real-world contexts. By addressing the challenges teachers face in the classroom and equipping students with proficiency in grammar, the study contributed to improving student's writing and speaking abilities.

3.4 Relationship Between Teachers' Utilization of Grammar Approaches and the Student's Grammar Skills

As shown in Table 9, a significant relationship was observed between the teacher utilization of grammar approaches and the level of students' grammar skills, with correlation coefficients (r values) ranging from .224 to .341, indicating a low positive correlation. The computed probability values of .000 and .001 were less than the level of significance ($P<0.05$), leading to the rejection of the null hypothesis. This finding suggested that as teachers' utilization of grammar approaches increases, based on the result, there was a corresponding improvement in students' grammar skills.

Table 9. Analysis of the relationship between teachers' utilization of grammar approaches and the student's grammar skills

Grammar Approaches	Grammar Skills	r value	P value	Remarks	Decision
Deductive Approach	Grammar Skills	0.341**	0.000	Significant	Reject H_o
Inductive Approach		0.334**	0.000	Significant	Reject H_o
Functional-Notional Approach,		0.315**	0.000	Significant	Reject H_o
Situational Contexts,		0.341**	0.000	Significant	Reject H_o
Through Texts		0.309**	0.000	Significant	Reject H_o
Through Stories		0.224**	0.001	Significant	Reject H_o

**Correlational at the level 0.01

*Correlational at the level 0.05(Two-tailed)

Effective grammar teaching methods adopted by teachers positively impact students' grammar proficiency. Teachers played a pivotal role in shaping students' grammar skills, and diverse teaching approaches enhanced students' grammar proficiency. By providing explanations, ample practice opportunities, and constructive criticism, teachers helped students develop a strong foundation in grammar. Cortez and Genisan (2021) emphasized the importance of conscious learning of grammar rules and implicit learning through relevant language contexts. While not all forms of instruction were equally effective, the study highlighted the need for teachers to consider the most effective teaching methods for grammar instruction. Students' readiness to grasp language nuances and variations influenced grammar teaching and learning effectiveness. By incorporating various activities and instructional styles, teachers catered to the diverse learning needs of students and optimized their grammar learning experience. In conclusion, the study underscored the critical role of teachers in enhancing students' grammar skills through effective grammar-teaching approaches. By prioritizing varied teaching philosophies and methods, teachers created a dynamic and engaging learning environment that supports students in mastering grammar concepts and improving their language proficiency.

3.5 Proposed Action Plan

This study investigated the relationship between teachers' grammar teaching approaches and students' grammar proficiency. The findings revealed a need for improvement in students' grammar skills, particularly for those who demonstrated a low level of proficiency, scoring 7.2% in the development phase and 12.22% in the assessment. An action plan (Table 10) was developed to address this gap, emphasizing the crucial role of enhancing grammar learning capabilities. This action plan served as the foundation for Project MARICEL, which aimed to implement the proposed strategies and improve students' grammar skills.

Table 10. Proposed Action Plan

Key Result Area (Approaches)	Objectives	Strategies/ Activities	Time Frame	Persons Involved	Source of fund	Success Indicators
Grammar Approaches						
Deductive Approach	Design the correct process of practical reasoning to a logical conclusion from a broad idea to a specific one.	The teacher will teach and instruct the learner to give the target language gradually to certain examples.	The entire school year of 2024-2025 as grammar integrates into the lesson.	Junior High School English Language Teachers, Grade 8 students	None	100 % of the objectives have been attained
Inductive Approach	To propose a way of reasoning with a bottom-up approach from generic examples to broader generalizations.	The teacher will provide the learners with different examples and let them give their conclusions while the teacher discusses the course adjustment on the idea.	The entire school year of 2024-2025 as grammar integrates into the lesson.	Junior High School English Language Teachers, Grade 8 students	None	100 % of the objectives have been attained
Functional-Notional Approach	To develop and improve the learner's grammar ability to understand semantics when learning vocabulary.	The teacher will emphasize different ways of instruction and practices to acquire knowledge to enhance language's actual and suitable meaning as an expression of communication.	The entire school year of 2024-2025, as the teacher teaches the grammar lesson in the class.	Junior High School English Language Teachers, Grade 8 students	None	100 % of the objectives have been attained
Situational Context	To clarify meaning in conceptualizing the idea in language, especially in	The teacher will introduce the clarity of the target language, including how it is	The entire school year of 2024-2025 as	Junior High School English Language	None	100 % of the objectives

	correct grammar and pronunciation, express a thought or feeling through articulating sounds, attain language structures, and dominate language skills.	created and verbally used at a certain level.	grammar integrates into the lesson.	Teachers, Grade 8 students		have been attained
Through Stories	To incorporate grammar skills in teaching by narrating different scenarios of events, either in the past or present.	The teacher will develop and teach an effective understanding of grammar by incorporating it through narrative text structures.	The entire school year of 2024-2025 as grammar integrates into the lesson.	Junior High School English Language Teachers, Grade 8 students	None	100 % of the objectives have been attained
Through Texts	To use and practice vocabulary skills to target the preparation in independent learning of the learners.	The teacher will link grammar to analyze critical interaction and critical thinking in evaluating texts from what they read, viewed, and analyzed to develop the target language for significant communication learning.	The entire school year of 2024-2025 as grammar integrates into the lesson.	Junior High School English Language Teachers, Grade 8 students	None	100 % of the objectives have been attained
Grammar Skills						
Subject-Verb Agreement	To understand the appropriate use of agreement between subject and verb. Construct sentences accurately using subject and verb agreement. To properly use subject-verb agreement in writing and speaking appropriately.	The learner will ensure how to identify the subject and the verb in the sentence by giving the whole concept of an idea before presenting certain examples of statements to show the proper use of it and providing specific examples before showing the general concept or vice versa. The learner will show the accuracy of the verbs that agree with the subject in the sentence by utilizing them in making short stories and or series of examples through different contexts. The learner will utilize the precise use of subject-verb agreement in different skills of communication	The entire school year of 2024-2025, as the teacher teaches the grammar lesson in the class.	Junior High School English Language Teachers, Grade 8 students	None	100 % of the objectives have been attained
Adjectives and Adverbs	Modifiers are used to express meaningful words or phrases in statements. To use different words to modify or describe the improvement of a certain meaning to be used in a statement.	The learner will effectively apply the added information to explain more about certain words or phrases that have essential and significant connotations. Introduce modifiers in the specific statement before presenting the whole idea of these grammar skills. Give the whole idea first before presenting the example in each statement. The learner will utilize the description words in different contexts of four language skills to give clarity and a sense of meaning.	The entire school year of 2024-2025 as the teacher teaches the grammar lesson in the class	Junior High School English Language Teachers, Grade 8 students	None	100 % of the objectives have been attained
Conjunctions	To achieve consistency in writing, connect words in a sentence or paragraph.	The learner will add the connectors to a statement to bind the word elements to create well-formed sentences in specific examples before proceeding to a general idea and also from broad information to a precise detail, and vice versa. The learner will use transitional devices from one sentence to another to link it smoothly to avoid abrupt and break ideas that can be applied in different texts or narrative types.	The entire school year of 2024-2025 as the teacher teaches the grammar lesson in the class	Junior High School English Language Teachers, Grade 8 students	None	100 % of the objectives have been attained
Parallelism	To develop the importance of ideas in a grammatical pattern.	The learner will create the structure of sentences with a balanced idea and coherence to have a logical connection in each part by presenting a topic with a specific sentence to broader examples. Using different texts or stories, the learner will utilize the grammatical patterns of words to show the same level of importance.	The entire school year of 2024-2025 as the teacher teaches the grammar lesson in the class	Junior High School English Language Teachers, Grade 8 students	None	100 % of the objectives have been attained

4.0 Conclusions

The conclusions derived from the findings emphasized the significance of employing varied and engaging approaches to teaching grammar, emphasizing the need for interactive learning, real-life application, and authentic significant feedback exposure to the students to reach the target language. Grade 8 students and teachers employed similar grammar approaches in language usage or teaching-learning practices. The teaching methods used by the teachers were effectively transferred to the students. Both groups had a comparable understanding and application of grammar principles in writing or speaking. However, it did not imply that students and

teachers were equally proficient in grammar, rather, it suggested that their utilization of grammar approaches was similar.

Therefore, the students in Cluster 7 public secondary schools in the division of Santa Rosa incorporated unknown or unfamiliar phrases into interesting activities as teaching and practicing grammar in context contributed to their proficiency in grammar skills. Their teachers provided target practices and remediation, especially for students struggling with specific grammar concepts, incorporated more grammar instruction and practice into the curriculum, and regularly assessed grammar skills to track progress and identify areas needing more focus. Grade 8 students built their current strong foundation in English grammar due to continued emphasis on grammar instruction and assessment. The higher the teacher's utilization of grammar approaches, the higher the student's grammar skills. It was profound, especially when teachers adopted effective grammar teaching methods, positively impacting students' grammar skills. It also implied that it improved grammar skills, and teachers played a crucial role in shaping students' grammar skills.

Implementing a comprehensive plan utilizing different teaching approaches has proven highly effective in teaching and instructing learners in a way that allows them to target language through gradual exposure to examples given. The plan had been implemented for an entire school year with Junior High School English Language Teachers and Grade 8 students. It yielded impressive results, with 100% of the objectives being attained for each approach. These outcomes affirmed the plan's success in helping students develop their grammar skills, underscoring the importance of innovative and tailored teaching strategies in fostering language proficiency and academic growth.

5.0 Contributions of Author

The author performed all the writing tasks to accomplish the entire research with the assistance of a language/grammar and format editor. The panel reviewed and approved the author's work.

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Behind the Badge: Lived Experience of Drug Enforcement Agents in Law Enforcement

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Abstract. The study delved into the real-life encounters of drug enforcement agents. It documented informant experiences in their duties, addressing related issues, and identifying needs to enhance their capabilities. The research employed a phenomenological approach within the qualitative methodology. Ten drug enforcement agents underwent in-depth interviews and focus group discussions guided by validated open-ended questions. The study commenced at Guihulngan City Police Station. Transcribed statements were analyzed to extract themes from individual experiences. Ten themes emerged: "The Windtalkers," "Service to Humanity's Value," "Lack of Logistic Support," "Challenges of High-Value Targets," "Race Against Time," "Inevitable Need for Prayer," "Collective Police Efforts," "Ingenuity in Achievements," "Training's Role in Victory," and "Logistics' Role in Warfare." There is a need to bolster support for law enforcement units, offer equitable training opportunities, emphasize effective law enforcement, encourage criminologists and researchers to contribute to enforcement practices, and encourage community cooperation in supporting law enforcement efforts.

Keywords: Drug enforcement; Informant experiences; Law enforcement support.

1.0 Introduction

The pervasive issue of illicit drug sales and consumption is deeply concerning in every nation. This phenomenon spurs global leaders to initiate significant reforms in crime management, implement stringent adjustments in sentencing protocols, and engage in an intensive campaign against it (Maurer & King, 2002). The "war on drugs" represents a progressively forceful endeavor in drug control (Taylor et al., 2009), driven by the fact that individuals under the influence of drugs and alcohol often engage in criminal activities, thereby increasing their likelihood of encountering the law enforcement system (Maurer & King, 2002; Hodgins & Lightfoot, 1988).

Drug law enforcement unquestionably stands as a pivotal element within global drug policy aimed at countering the illicit use of drugs. Since the early 1980s, several nations have embarked on an extensive and costly "War on Drugs" campaign. Estimates indicate that the United States has expended over $300 billion from state and federal resources designated for drug-related operations and initiatives (Moore, 2008). Austria allocated $1.3 billion

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toward proactive drug control strategies (Skolnick, 1994), the Netherlands channeled $185 billion from its resources into drug control policies (Caulkins & Reuter, 2010), and numerous countries' economies have suffered due to the repercussions of illegal drug trafficking and consumption (Howard, 2000).

The Philippines has pledged its support as a signatory to the primary United Nations (U.N.) drug control treaties, according to the Asian Network of People who Use Drugs (ANPUD) and the International Network of People who Use Drugs (INPUD). These conventions are designed to establish regulatory measures for certain psychoactive substances to restrict their availability and consumption solely for medical or scientific intentions. The Philippines employs the Comprehensive Dangerous Drugs Act of 2002 (R.A. 9165) and Executive Order No. 15 as key instruments to combat illicit drugs. These legislative measures created the inter-agency committee on anti-illegal drugs (ICAD) and an anti-illegal drug task force, respectively, to effectively handle the drug problem in the nation.

Despite its adherence to these conventions stringent measures under the act and executive order, there are still around 1.3 million drug users in the Philippines. Methamphetamine, cannabis, and inhalants are the primary illicit substances of concern, per the Dangerous Drugs Board's 2014 statistics. Over a million individuals surrendered during the inception of Operation Tokhang from July 2016 to January 31, 2017, not including the thousands who lost their lives during the operation.

President Rodrigo R. Duterte started an unprecedented anti-drug campaign in the Philippines upon assuming office in 2016. The drug problem in the country has been intricately associated with police enforcement and criminal behavior. President Duterte committed to addressing the widespread issue of illicit drugs, which he saw as causing significant harm to Filipino households and hurting the country's younger generation. In response, the government implemented rigorous measures by mobilizing the Philippine National Police (PNP) and local government units throughout the country. Following the directives of the President, law enforcement officials conducted comprehensive door-to-door operations, taking the responsibility of enforcing the law (Estacio et al., 2019).

This stark reality of the Philippines' drug dilemma directly impacts law enforcement, especially drug enforcement agents. More disconcerting is people's inventive strategies to continue drug use while evading authorities, employing drug consumption as a tactical element in their daily lives. Lasco (2017) suggests that a sense of hypocrisy and perceived injustice, stemming from personal experiences, shapes their view of law enforcers, whom they label as "kalaban" (enemies). Drug users' antagonism toward the police fundamentally acknowledges their role as adversaries in a war against them.

This research focuses on a significant aspect within a city classified as a fifth (5th) class, such as Guihulngan. Within this context, it is disconcerting to observe that out of the total population of 95,969 individuals (based on the 2015 census conducted by the Commission on Population), a substantial 1,388 individuals are implicated in illicit drug activities. Surprisingly, despite this notable involvement in illegal drug operations, only 106 drug-related individuals are currently detained at the Guihulngan District Jail. This stark disparity between the number of individuals associated with illegal drug activities and the relatively small proportion of incarcerated drug offenders underscores a significant discrepancy within the city's approach to addressing drug-related issues. This discrepancy prompts a critical examination of the existing strategies, enforcement measures, and overall effectiveness of the legal system's response to the pervasive challenge of illegal drug operations in Guihulngan.

Drug law enforcement involves the efforts of law enforcement agencies to enforce laws related to illegal drugs, including investigating drug trafficking, making arrests, and prosecuting offenders. Several studies have considered various drug law enforcement programs, interdictions, and operations involving diverse methods, strategies, and approaches. For instance, Operation Just Cause (OJC) is an example of U.S. intervention aimed at General Manuel Noriega of Panama, charged with illegal drug trafficking in the United States (Brady et al., 2010). Similarly, the Operation Pressure Point (OPP) of the New York City Police Department is a proactive endeavor designed to supplement its predominantly reactive system, disrupting drug traffic expanding on the streets of Manhattan's Lower East Side (Letwin, 1990). The two-year investigation known as Operation Adam Bomb (OAB), led by the Drug Enforcement Agency (DEA), with significant contributions from various entities such as the

Netherlands Regional Police Force Flevoland, prosecutors from the International Legal Assistance Center North East Netherlands, the DOJ's Office of International Affairs, the United States Postal Service, and the Scottish Crime and Drug Enforcement Agency, is cited in the DEA report on Performance Budget Congressional Submission (2014). Another notable initiative is PROJECT DARE, the collaboration between enforcement agents and schools aimed at helping children resist drugs at the street level (Hayeslip, 1989).

Several studies have also sought to evaluate the efficacy of various techniques and strategies. Mazerolle, Soole, and Rombouts (2007) performed a comprehensive meta-analysis to assess the effectiveness of street-level drug law enforcement programs. Weisburd and Eck (2004) use a conceptual framework to analyze and differentiate four distinct drug law enforcement strategies: community-wide policing activities, problem-oriented policing activities, hotspots policing, and conventional, traditional ways. According to a study conducted by Mazerolle, Soole, and Rombouts (2007), the findings from eleven meta-analyses revealed that drug law enforcement initiatives had a noteworthy and favorable influence on drug-related calls for service, crimes against individuals, and overall calls for service.

Further research indicates that law enforcement is an exceptionally demanding profession, primarily stemming from various internal factors within the organizational structure. These include role ambiguity, role conflict, insufficient supervisor support, a need for more group cohesiveness, and limited opportunities for advancement (Gaines & Jermier, 1983; LaVan & Welsch, 1981). The absence of essential resources such as equipment, mobility, budget, and tools poses a significant hurdle, impacting the proficiency and efficiency of officers in executing their responsibilities. These logistical elements distinctly enhance the efficiency of police service when they are provided and sustained (Brady et al., 2010).

The drug enforcement program and prior law enforcement studies have yet to pinpoint a foolproof strategy to ensure effective crime reduction. Increasingly, scholars concur that the mere enlargement of conventional policing methods will yield minimal or no impact on crime rates. They posit that for police departments to address crime and citizens' apprehensions better, fresh policing strategies must be devised. These gaps serve as the focus of this study, aiming to substantiate that the effectiveness of these strategies is not solely contingent on governmental capabilities but crucially hinges on the competence of individual agents to implement these programs and approaches.

This research study is built upon three key theories: social control theory, expectancy theory, and routine activity theory. These frameworks are pivotal in investigating the experiences of drug enforcement agents during their operational duties. Travis Hirschi's Social Control Theory (1969) illuminates delinquency by proposing that individuals abstain from deviant behaviors due to their societal connections. These connections involve attachment to conventional figures, commitment to objectives, involvement in mainstream activities, and belief in societal norms. These internal factors foster conformity, acting as deterrents against deviant behavior. The theory explores commitment, involvement, and belief, which collectively discourage participation in criminal acts.

Moreover, Vroom's Expectancy Theory (1964) suggests that individuals make choices based on perceptions to maximize pleasure and minimize discomfort. This theory is relevant in work motivation, focusing on valence, instrumentality, and expectancy within the VIE model. Cohen and Felson's Routine Activity Theory (1979) examines crime as a contextual event shaped by spatial and temporal factors. The theory emphasizes potential offenders, suitable targets, and capable guardians. It underscores how these elements influence criminal opportunities. These theories underpin the study's exploration of drug enforcement agents' experiences. The research aims to reveal insights into their actions, motivations, and challenges within their roles, illuminating the intricate dynamics of law enforcement engagement.

The main purpose of this study was to investigate the direct experiences of drug enforcement agents in Guihulngan City to reveal the changes and advancements in their responsibilities as operatives involved in drug enforcement. Furthermore, the research aimed to get valuable perspectives on the drug problem from those often known as "drug dragnet makers." The research suggests that by empowering and providing government assistance to law enforcement officers, especially in addressing their professional needs, the efficiency of drug law enforcement may be improved. In the present setting, the study sought to investigate the following research

questions: What are the experiences of the drug enforcement agents throughout their responsibilities? How do these drug enforcement agents effectively address and manage the issues and concerns during their duties? What are the requirements of drug enforcement agents to improve their competence?

2.0 Methodology

2.1 Research Design

The phenomenological approach, guided by Husserl's (1970) approach, was employed to explore the lived experiences of drug enforcement agents, allowing their authentic voices to emerge. By gathering detailed, personal narratives from these individuals, the research captured their actions, thoughts, emotions, and perceptions. This method provided a deep and nuanced understanding of how these agents experienced and interpreted their work, ensuring the findings were closely connected to their real human experiences.

2.2 Research Site

The research was carried out in Guihulngan City, located in Negros Oriental, an area that has documented a total of 106 instances of drug-related crimes. The city is situated roughly 2 kilometers from Negros Oriental State University-Guihulngan Campus. Guihulngan City comprises 33 barangays, most located in hilly regions, presenting difficulties in law enforcement accessibility. The city is situated 116 kilometers from Dumaguete City, which serves as the provincial capital of Negros Oriental. The Municipality of Vallehermoso is situated to the north, while the Municipality of La Libertad is located to the south. To the west is the Municipality of Isabela, and to the east is Tañon Strait.

2.3 Research Respondents

Given the challenge of identifying and verifying drug enforcement agents, a non-probability sampling method called snowball sampling was employed. Snowball sampling proves particularly beneficial for sensitive and secretive subjects like drug enforcement agents, who maintain low profiles for security reasons. The participants in this research were members of the local drug enforcement unit of the PNP operating in Guihulngan City, Negros Oriental. These individuals actively enforce drug-related laws in the field and demonstrate willingness, commitment, and interest in participating in this study. The study comprised ten (10) drug enforcement agents divided into two (2) distinct interview groups. The first group consisted of four (4) drug enforcement agents participating in in-depth interviews, while the second group included six (6) drug enforcement agents engaging in a focus group discussion.

2.4 Research Instrument

The researcher conducted in-depth interviews and focus groups using an interview guide. This interview guide used free-form questions to understand the good and the bad. The researcher recorded the interviews with a voice recorder and made notes for later transcription. The interview guide was designed with a framework consisting of three primary inquiries: the drug enforcement agents' experiences, comprising both good and negative elements; their tactics for handling unpleasant experiences; and their stated requirements for boosting their performance. In addition, sub-questions were used as further prompts to delve deeper into the replies provided by the drug enforcement agents.

2.5 Data Collection

The researcher employed an interview guide to extract the lived experiences of each informant as a drug enforcement agent. The interview questions were thoughtfully crafted to facilitate in-depth individual interviews and focused group discussions, aligning with three main research inquiries. Once potential drug enforcement agents agreed to participate, they were individually presented with questions by the researcher, which took about 40-60 minutes. The research methodology used for data collection included conducting in-depth interviews and focus group discussions on carefully selected settings to ensure the participants' comfort. The interviews were recorded using audio equipment after obtaining consent, allowing for subsequent transcription and facilitating the examination of remarks made by the drug enforcement agents within their original context.

2.6 Data Analysis

Thematic analysis was conducted on the data collected through in-depth interviews and focus groups, with the insights from drug enforcement agents forming the core of the analysis. The data was coded to help the researcher

identify and manage key information. As a result, distinct patterns and categories emerged from the responses. The identified themes were then subjected to expert validation to ensure their relevance and accuracy.

2.7 Ethical Considerations

Confidentiality in terms of identity and security, individual rights, and privacy of information were the major ethical considerations at the very start of this study. The drug enforcement agents were informed that their responses would be confidential and could not be disclosed to anybody. An informed consent form was signed outlining interview purposes, procedures, subject rights, and the researcher's responsibilities. Their participation was voluntary, with no impact on current or future relationships. Participants could withdraw anytime without repercussions and were empowered to skip questions deemed too personal. The researcher assured participants that the data collected would be returned or destroyed upon withdrawal or study completion, as per their preference. The study posed no known risks, and participant identity remained safeguarded. Ethics clearance was acquired before the conduct of this research.

3.0 Results and Discussion

3.1 Experience of Drug Enforcement Agents in the Performance of Duty

Five distinct themes surfaced that depict the drug enforcement agents' encounters fulfilling their responsibilities. These themes were categorized into two sections: the first relates to their duty, labeled "The Windtalkers." At the same time, the remaining four pertain to their actual experiences, including "Value of Service to Humanity," "Lack of Logistical Support," "Challenges of High-Value Targets (HVT)," and "Race Against Time," as shown in Table 1.

Table 1. Experiences of the drug enforcement agents in the performance of duty

Themes	Sample Responses
The Windtalkers	As a member of the drug enforcement unit, I sometimes conduct surveillance. Then, sometimes, I am the arresting officer, act as a poseur-buyer, and file the case. So that is our work (IDII4:SS24).
Value of Service to Humanity	Ah, the good thing was that every time we performed our duties, we considered it good and took our responsibilities as unit members seriously (IDII2:SS9).
The dearth of Logistical Support	We lack personnel and a budget; I guess it is like that. In vehicles like vehicles, we do not have any to use instantly. We encounter that problem concerning the operations (FGDI5:SS53).
Adversities of HVT (High-Value Target)	Sometimes, we encounter difficulties with the subject person itself, like those influential persons. There is a greater possibility that they will get back to us anytime. That is our biggest problem that affects our work because they will do anything to eliminate the arresting officer so that the case can be dismissed since one of the bases for dismissing the case is if there is no complainant (IDII2:SS11).
Racing Against the Time	The hardest thing, as I have said, is if our superior gives a member of the drug enforcement unit an exact date or time to effect arrest to target personalities. We cannot give that exact time our superior gave to arrest the said personalities. We consider it hard if we are given time to accomplish our target (IDII1:SS4).

Theme 1: The Windtalkers

Agents in the drug war use covert tactics and surveillance methods akin to those used by military intelligence. This subject is consistent with expectation theory, which contends that these covert acts are carried out to obtain favorable results through trustworthy information. The importance of covert operations and surveillance in law enforcement is supported by numerous research.

All of the authors, including Joh (2009), John and Maguirre (1995), Ratcliffe (2005), and John and Maguirre (2006), underline the importance of monitoring in obtaining information and improving crime rates and public trust. Knol, Koppen, and Vredeveldy (2015) offer a global view of specialist surveillance teams. Due to resource constraints, the Philippine National Police's drug enforcement unit interacts with the PDEA. Duterte's 2017 edict demonstrates a concerted effort to address drug-related issues. Malinao and Torino's (2019) study emphasizes the ethical and practical value of intelligence gathering in averting unlawful arrests.

Theme 2: Value of Service to Humanity

This concern refers to the drug enforcement agents' extraordinary dedication to their jobs as drug enforcement operatives. Their passion extends to forsaking personal goods and jeopardizing personal security to provide just and righteous police service to the community. Using expectancy theory's idea of valence, the drug enforcement agents' dedication and sacrifices represent the importance, attractiveness, and desirability they place on their chosen vocation. This dedication is consistent with their belief that their activities will result in meaningful outcomes.

Previous studies back up this claim. Figley (1999) outlined the incentives for officers to join law enforcement, highlighting the desire to have a positive effect and assist others. According to Charles and Smith (2010), law enforcement professionals frequently perceive their employment as a benefit to society. Bradford, Jackson, and Stanko (2009) emphasized the importance of public trust in police performance and reform efforts. Murphy (1965), Kanungo (1982), and Celoy-Sagpaey (2012) all conducted studies that emphasized commitment, job involvement, professionalism, and moral ideals within the police service. Obrera (2001) discovered that non-commissioned officers' commitment is influenced by field duty and difficult circumstances. These studies show that devotion, professionalism, and dedication are essential in law enforcement, with officers frequently going above and beyond their formal duty hours.

Theme 3: The Dearth of Logistical Support

This issue reveals a key obstacle drug enforcement agents encounter in their tasks. It focuses on problems caused by insufficient funds, movement restrictions, and the need for more tools, equipment, communication means, and facilities. These impediments hamper their effective and timely work completion. Using social control theory, logistical support is identified as an external variable outside the control of the drug enforcement agents. Despite their desires for excellence, the absence of crucial facilities negatively influences job performance.

Brady et al. (2010) confirm this theme by underlining logistical challenges the US Marshall Services encountered during the Noriega extradition effort. A need for more resources, such as surveillance equipment and communication tools, impeded operations. Similarly, Atabakhsh et al. (2002) discovered that insufficient resources made it difficult for Los Angeles County law enforcement to share information efficiently, allowing criminals to exploit communication gaps. Dangani and Tamayo (2017) revealed that in drug operations, more equipment is needed to improve the capability of anti-drug personnel. Poor instruments, such as surveillance equipment, reduce their effectiveness despite preparation. The research presented here emphasizes the critical importance of adequate resources in effective law enforcement operations.

Theme 4: Adversities of HVT (High Valued Target)

This issue heightens law enforcement officers' difficulties when dealing with high-value targets. These powerful persons pose a significant threat to effective duty performance. Their ability to jeopardize personal security and disrupt operations exacerbates these obstacles. This subject, which is based on social control theory, stresses the impact of external influences on informant behavior. The unknown dangers posed by high-value targets instill fear and jeopardize informant efficiency.

The research of Felbab-Brown (2013) highlights the limitations of high-value targeting against organized crime, emphasizing its ineffectiveness in specific instances. Choi et al. (2009) and Akerlof and Yellen (1994) shed light on the complexities of targeting high-value persons due to affiliations and the difficulties of dealing with large drug traffickers. The PDEA and PNP's anti-drug operations pose significant hazards in the Philippines, with countless arrests and casualties. The Parojinog case shows the difficulties of dealing with narco-politicians. The increased involvement of officials in the drug trade highlights the importance of strong central policies (Mutiarin, 2019; Arambala, 2018). This theme also emphasizes the inevitable danger and stress in police enforcement, echoing the perspectives of Jaramillo, Nixon, and Sams (2005) and Anderson, Litzernberger, and Plecas (1995). It emphasizes the complicated and perilous nature of confronting high-value targets in the field.

Theme 5: Racing Against the Time

This concern highlights the significant influence that time limitations have on law enforcement agents. Managing such pressures adds a weight that makes efficient duty fulfillment difficult. Using social control theory, this subject emphasizes how external factors such as time influence informant behavior. The pressure of time limits has a big impact on their performance.

Perlmutter's (1962) viewpoint emphasizes the importance of time in police operations, with quick resolutions taking precedence. Law enforcement must be adaptable because criminal networks are dynamic (Atabakhsh et al., 2005). Legal judgments that must be made quickly (Risinger & Saks, 2003) and limited resources (Mastrofski et al., 1998) present hurdles to innovation. A six-month deadline from the President complicates matters for

narcotics agents (Gecer & Mahinay, 2017). Salazar (2018) observes that increased operations pressure the justice system. This subject emphasizes the importance of time in influencing law enforcement methods and difficulties.

3.2 Strategies in Addressing the Issues and Concerns Relating to the Performance of Duty

The researcher has identified three emergent themes based on informant statements about addressing various issues related to their duties: "Prayer as an Inevitable Necessity," "Police Service as a Collaborative Effort," and "Achievements Through Human Ingenuity." These themes reflect the coping strategies drug enforcement agents employ to ensure their performance remains unaffected, as shown in Table 2.

Table 2. Drug enforcement agents' performance concerns and issues

Themes	Sample Responses
Prayer is an Inevitable Necessity	For me, sir, even though we have no bullet vest, we must trust the Lord that He will not abandon us. We will just pray that He will take us away from danger, and then we will also pray that the subject will surrender peacefully (IDII3:SS20).
Police Service is Not a One-Man Job.	We cannot do it alone. We need backup forces, like our adjacent friendly forces in the PPSC (Philippine et al. Company), the provincial mobile company, and our provincial drug enforcement unit (IDII1:SS5).
Achievements Require Human Ingenuity	As part of the said unit, we will contribute our things. We will rely on our teammates and nothing else. We will spend our effort and money on accomplishing our mission (IDII1:SS6).

Theme 6: Prayer is an Inevitable Necessity

This practice emphasizes the drug enforcement agents' reliance on faith and prayer to accomplish their tasks and objectives while remaining true to their spiritual beliefs. Moral considerations function as external forces influencing individual actions. Hence, the moral dimension of social control theory is crucial here. Prayer is utilized in this context to protect moral ideals and prevent the use of excessive force during operations.

Charles' (2005) research of seasoned law enforcement personnel discovered that frequent spiritual practices, such as prayer, improved professional performance. According to Charles and Smith's (2010) research, spiritual alignment with broader ideals positively impacts police work by ensuring safety, creating peace, and linking officers to their communities. Tait's (2013) research on veterans found that praying helps them cope with trauma and PTSD experiences from combat. Similarly, Felipe (2017) emphasized the widespread practice of prayer, fasting, and penance in Philippine police and military camps to promote anti-drug initiatives. This theme emphasizes the importance of faith and prayer as coping methods that fit with moral principles and contribute to law enforcement agents' well-being and effectiveness.

Theme 7: Police Service is Not a One-Man Job

This trend emphasizes the importance of teamwork, coordination, and cooperation in overcoming problems faced by drug enforcement agents. The maxim "No Man is an Island" highlights the value of working together to achieve common goals. As the link between support and operational performance becomes clear, this notion corresponds with the instrumentality concept of expectation theory. The achievements of drug enforcement agents are linked to the assistance they receive.

Deborah's (2006) study emphasizes the continued need for cross-sector coordination in the context of effective homeland security. Similarly, Murphy's (1965) findings underscore the good influence of police and district attorney coordination on public trust. Vecchi's conclusion (2002) emphasizes the need for teamwork in dispute resolution and reaching common goals in law enforcement. McGarrell's (2005) research shows successful collaborations that use evidence-based techniques to address concerns, such as Project Safe Neighborhoods. The police and the military place a premium on effectively using government-sanctioned force (Cowper, 2000). Romualdo's (2018) advice emphasizes the importance of coordinated efforts across agencies, local governments, and communities for efficient drug-clearing operations. Notably, local government assistance is critical in anti-drug activities (Dangani & Tamayo, 2017), underlining the importance of collaboration between the PNP and local governments. Overall, this topic emphasizes the critical role of collaborative tactics in addressing law enforcement concerns.

Theme 8: Achievements Require Human Ingenuity

This issue showcases drug enforcement agents' coping strategy involving their initiative and willingness to address challenges. It highlights the importance of creativity and resourcefulness in achieving goals. Expectancy

theory's instrumentality concept applies here, indicating that the outcomes of drug enforcement agents' initiative or resourcefulness lead to a higher probability of mission accomplishment.

Deborah's study (2006) supports this, emphasizing individual initiative in community policing success. Burton (2000) highlights the DEA's efforts to retain staff through training modules. Ponsaers (2001) agrees, noting how Police Community Relations enhance community well-being. Patterson and Cooperrider (2008) show that voluntary initiative drives action based on shared values. Fredrickson's positive emotion theory (2000), backed by Schaulfeli et al. (2001) and Sonnentag (2003), aligns with this theme, indicating that positive emotions foster creativity and optimal functioning. The PNP's "TapHang" campaign in the Philippines involves gathering communities to combat drugs (Romualdo, 2018). Dangani and Tamayo (2017) highlight challenges in Cavite City's anti-drug efforts due to limited funding from the police station and LGU. This theme underscores the value of initiative and creativity in tackling challenges, exemplifying their pivotal role in law enforcement strategies.

3.3 Needs of Drug Enforcement Agents to Strengthen Their Competence

Two themes were developed to address the drug enforcement agents' needs and enhance their proficiency in drug enforcement. "Producing Victors through Intensive Training and Professionalization" and "Superior Logistics, Not Just Men, Win Wars" themes derived from the drug enforcement agents' statements reflect their aspirations for improved performance. These themes also underscore the significance of rigorous training and effective logistics in mission accomplishments, as presented in Table 3 below.

Table 3. Drug enforcement agents' competence needs

Themes	Sample Responses
Intensive Training and Professionalization produce victors	There is a saying that education is a continuous process. If we have already learned something, it is better to undergo other schooling or seminars to enhance our careers. Then, we also need a refresher (course) because sometimes we need to remember Standard Operating Procedure [SOP] (FGDI2:SS40).
War is Not Only Won by Men but by Superior Logistics	Sometimes, we produce and provide our equipment because we cannot deny that the organization cannot meet our needs individually because there are so many, and then, of course, the budget is given little by little (IDII2:SS15).

Theme 9: Intensive Training and Professionalization Produce Victors

This demonstrates the drug enforcement agents' desire for relevant training to help them improve their abilities and knowledge as narcotics enforcement officers. Training becomes necessary for advancement in a certain sector, emphasizing that leaders are made, not born. Using the concept of guardianship from Routine Activity Theory, this topic emphasizes that competence is not easily achieved; it requires effort. The targeted training and professionalization are expected to improve their knowledge and skills, increasing their capacities.

This theme is supported by Chermak, Freilich, and Shemtob's (2009) study, which focuses on how U.S. law enforcement agencies increased readiness after 9/11 through training and scenario analysis. Ebling's research (2002) supports this by emphasizing the FBI's fitness emphasis for improved job performance. Brereton (1961) highlights the importance of strong educational and training standards in law enforcement for effective operation. Woodward's (2000) study demonstrates how U.K. special forces receive tailored training for effective engagement. Periodic training improves the capacities of anti-drug enforcement officers in the Philippines (Dangani & Tamayo, 2017). Due to the respondents' lack of expertise, Dulin and Guadamor (2017) propose seminars and specialized training in the fight against illegal drugs. This subject emphasizes the critical importance of training in increasing the efficiency and effectiveness of law enforcement.

Theme 10: War is Not Only Won by Men but by Superior Logistics

This stresses the need for logistical support in improving the competence of drug enforcement agents. Budgets, armaments, vehicles, communication technologies, staff, and facilities are critical to mission accomplishment. Because a lack of these resources jeopardizes operation outcomes, logistical support is critical for timely and successful drug enforcement services. The concept of guardianship from Routine Activity Theory applies here since logistics demonstrate an organization's capabilities. Drug enforcement agents require adequate and satisfactory logistics to prevent prospective criminal acts.

Nunn's (2003) study backs this up, highlighting the role of modern technologies in law enforcement for terrorist and narcotics campaigns. Gal's (2004) research highlights the significance of effective tools for credible law enforcement, which necessitates financial and human resources. The study by Chen and Xu (2005) supports accurate data and analytical methodologies for comprehending criminal networks, whereas Brown and Hagen (1999) highlight automated tools that aid in various law enforcement duties. Drug enforcement is a difficult police career that necessitates large resources. This theme emphasizes the necessity of human resources, logistics, and individual proficiency in attaining effective and efficient drug enforcement while admitting the phenomenon's continual struggle.

4.0 Conclusion

This article focuses on real-life contacts with narcotics enforcement officials in Guihulngan City. Its main purpose was to record these agents' direct experiences while performing their responsibilities, addressing relevant concerns, identifying opportunities for improving their abilities, and filling the identified gaps in drug law enforcement. This paper confirms the theories of social control, expectancy, and routine activity. These frameworks are pivotal in investigating the experiences of drug enforcement agents during their operational duties. The main goal is strengthening support for all law enforcement units engaged in policing. Local government units should provide the necessary resources to empower units fighting illegal drug activities. This result is vital for effective performance, as weak support hampers results.

Next, the Philippine National Police should train all officers through relevant workshops and seminars, avoiding selective choices. Many drug enforcement agents must gain skills and wish for training opportunities. Compulsory methods, not selective ones, should be used for development. Also, directives' timing should match mission challenges, as targeting moving objectives is tough. Units' strengths and challenges should determine time limits. The PNP must prioritize swift, efficient law enforcement by learning from successful global strategies. Old methods and technology are outdated. Reimbursement processes should be quicker to encourage initiative. Drug enforcement agents often accomplish missions through personal initiative despite reimbursement delays. Criminologists and researchers should continuously research to modernize law enforcement. Lastly, communities must collaborate with law enforcement for prompt and effective services.

The study's limitations include key informant availability and interview time constraints, which may impact data comprehensiveness. Focusing on a subset of drug enforcement agents may limit the extent of the findings. To address these constraints, future studies might involve a broader, more diverse sample of key drug enforcement agents, providing a more complete picture. Extending the scope to include the full drug enforcement program and including various workers would improve understanding of dealing with drug usage issues.

5.0 Contributions of Authors

Philner P. Salindo –writing and editing of manuscript, Orlando Bantolinao, Jr - conception of research, conduct of research, Richard B. Osumo - supervising, data analysis, Miñerva Lariosa - data gathering, encoding, Dominic Lariosa - data gathering proofreading,

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7.0 Conflict of Interests

The authors declare no conflicts of interest about the publication of this paper.

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Effectiveness of Acceptance and Commitment Therapy (ACT) on Alleviating Depression Symptoms: A Longitudinal-Naturalistic Study

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Abstract. Acceptance and commitment therapy (ACT) is recognized as a transdiagnostic and one of the effective therapeutic intervention approaches for depression in young adults and university students with a proven extended significant benefit. ACT's core goals are to be psychologically flexible and less prone to depression. However, although numerous studies demonstrated ACT's effectiveness, it is necessary to address the gap in determining whether the efficacy is consistent with previous research that mostly applied randomized controlled trials (RCTs). This study utilized a rare approach in navigating its efficiency among an underrepresented sample of Filipino students in a local university. This research applied a longitudinal-naturalistic single-group design within a two-month interval between baseline and post-intervention data among 124 participants. Relevant data were gathered using the Quick Inventory for Depressive Symptomatology – Self-Rated Version (QIDS-SR) in evaluating depressive levels and symptomatology and the Multidimensional Psychological Flexibility Inventory (MPFI) for identifying psychological flexibility and inflexibility. The results demonstrated significant changes with a p-value of 0.000 and an effect size d of .85. More so, it can be surmised that the value of F (2, 121) = 33.80 with a p-value less than 0.05 significantly impacted depression. Hence, ACT psychoeducation group intervention through a synchronous online platform alleviated the depression symptoms among students in a local university. Also, data proved that psychological flexibility and inflexibility have a significant impact on depression. Thus, the potential utilization and inclusion of psychoeducation based on ACT in the course and counseling program among college students is highly suggested.

Keywords: Acceptance and commitment therapy; Depression; Psychological flexibility and inflexibility; Longitudinal-naturalistic study; Filipino.

1.0 Introduction

Living in the global pandemic brought on by COVID-19, people are pushed to live as if they were in the movie "Hunger Games," where the fittest survive. According to the World Health Organization ([WHO], 2022), the pandemic is one of the public health emergencies that profoundly impacts the mental health of people around the globe. There is a high prevalence of mental health conditions, and about one in every eight people worldwide has a mental disorder across all countries (WHO, 2022). Hence, there is a crisis due to the increasing mental health-related issues worldwide that consequently demands effective intervention.

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People suffering from any mental health-related conditions may find Acceptance and Commitment Therapy (ACT) as their holy grail amidst psychological entrapment (Strange, 2021). ACT employs numerous psychotherapeutic techniques to alleviate people's dilemmas and promote their well-being, including acceptance of experience, cognitive diffusion, flexible attention to the present moment, contact with transcendent or perspective-taking a sense of self or self-as-context, clarity of values, and fostering commitment to values-based living. ACT is an evidence-based contextual cognitive behavioral intervention designed to create greater psychological flexibility (Louma et al., 2017).

More so, Strosahl and Robinson (2017) stated that ACT has proven to be a promising therapy for depression in both adolescents and adults, and it seems to give long-lasting benefits even after treatment has stopped. ACT is about alleviating psychopathology and living well (Louma et al., 2017). It can help a person suffering from depression, anxiety, and other mental health conditions (Fletcher, 2022), and according to Valdez (2022), depression is among the most common conditions in which ACT was found to be effective. Similarly, a systematic review by Coto-Lesmes et al. (2020) analyzed that those patients who received interventions based on Acceptance and Commitment Therapy showed a better emotional state and greater psychological flexibility than patients without treatment. Also, ACT's psychological flexibility is essential in decreasing depressive symptomatology on both clinician-rated and self-report measures (Ostergaard, 2020). Likewise, results showed that ACT's psychological flexibility mediated the relationship between fatigue severity and rest/sleep on depression among staff nurses (Yao et al., 2023).

Furthermore, according to Kroska et al. (2020), "this transdiagnostic intervention that aims to develop psychological flexibility may be useful as the impact of the pandemic continues to unfold." This therapy enhanced university students' psychological flexibility, mental health, and school engagement (Gregoire et al., 2018). In addition, Levin et al. (2020) suggested that ACT can be delivered online to improve college students' mental health. During the period of the COVID-19 pandemic, it has been reported that higher psychological inflexibility was associated with higher perceived stress, loneliness, and depression among college students (Radyani et al., 2022). Depression is a common mental health problem, affecting over 300 million people across the globe. It has been ranked as the leading contributor to global disability and a significant contributor to suicide, with an account of 1 per 100 deaths globally (WHO, 2017; 2022).

In a recent study conducted by Abalajen et al. (2022) among Psychology majors at Taguig City University, they found that 57.15 percent of their male respondents have moderately to highly elevated depression, while there were 52.10 percent of their female counterparts. Similarly, a study conducted by Clemente et al. (2019) shows that most of their respondents fell under the category of moderate depression, while some showed high to very high depression levels. Regardless of depression prevalence, it can be traced that afflicted college students are less likely to receive treatment (Arbona et al., 2017). However, despite numerous studies conducted that proved ACT's efficacy on depression (Bai et al., 2020; Hallis et al., 2016; Heydari et al., 2018; Ma et al., 2023; Mahnaz et al., 2018; Pots et al., 2016; Towsyfyan et al., 2017; Twohig et al.; M., 2017) among college students (Abdul-Aziz et al., 2020; Kato et al., 2016; Levin et al., 2020; Radyani et al., 2021; Rasanen et al., 2016; Simon et al., 2018; Wang et al., 2023) in a group setting (Kyllonen, et al., 2018; Mahnaz, K. &, Asghar, A., 2018; Ostergaard et al., 2020; Toghiani et al., 2019) delivered via web-based or online intervention (Lappalainen et al., 2015; Levin et al., 2020; Mahnaz et al., 2018; Pots et al., 2016; Rasanen et al., 2016) yet, most of these papers utilized randomized clinical trials or RCTs.

Consequently, there is a need to bridge the gap in gauging whether the efficiency of ACT is consistent with the previous research using a different approach in navigating the effectiveness through a longitudinal naturalistic design in identifying significant changes, impacts, and effects of ACT on depression and its symptoms within two-month intervals among underrepresented sample, Filipino students in a local university. Specifically, this study mainly purported to explore ACT's effectiveness in alleviating depression symptoms among college students taking B.S. Psychology degrees. Moreover, it aimed to determine whether there are differences in depression, its levels, and symptoms, as well as participants' psychological flexibility and inflexibility before and after intervention. Lastly, it sought to evaluate whether psychological flexibility and psychological inflexibility have an impact on depression among the participants.

2.0 Methodology

2.1 Research Design

The researcher used a longitudinal naturalistic single-group research design with a two-month interval. This design is an observational and correlational study involving consistent monitoring and repeated population assessment over an extended period. It allows the researcher to identify stability, developments, or changes among its subjects over time. A longitudinal study is an alternative to an experimental research design that enables researchers to uncover cause-and-effect relationships (Simkus, 2023). The researcher chose this design because relatively few studies examine the effect of Acceptance and Commitment Therapy in a naturalistic setting compared with the number of studies conducted using randomized clinical trials (RCT). Using this design helped to determine the effectiveness of ACT in alleviating depression symptoms and to compare whether the progress among the participants is significant at a given time two-month interval.

2.2 Research Locale

This study was held at Taguig City University in Taguig City, Philippines. The therapeutic sessions were held synchronously via the Google Meet application. The instruments or tools were also shared online via Google Forms.

2.3 Research Participants

Out of 485 invited participants, there were 204 who took the pretest, whereas there were only 132 who took the post-test. Consequently, after thorough deliberation, only 124 participants, of which 113 were females, and 11 were males, were included in the final list who participated in the intervention sessions and completed the research questionnaires from baseline to two (2) months later. These participants were aged 19 to 34, with an average age of 21. The researcher purposively selected the participants based on the following satisfied set of inclusion criteria at the time of the study: (1) they should give full consent to participating in the study; (2) they should be officially enrolled in the A.Y. 2022-2023; (3) they were taking Bachelor of Science in Psychology program in Taguig City University; (4) they were in their sophomore, junior, and senior year; (5) they should be 18 years old and above. Conversely, the researcher also identified some exclusion criteria such as (1) not recently diagnosed having any mental health disorder; (2) not undergoing any psychological treatment at the time of the study; (3) not taking any prescription for mental health-related illness such as anti-depressant, anti-psychotic drugs, and the like; and (4) none of the participants aged 17 years and below; The participants were recruited via posting an invitation using Google Forms link on their official group messenger accounts. Recruitment started after the researcher had secured approval from the Institutional Ethics Review Board, College Dean, and Program Head. The invitations posted were not limited to those who were experiencing depressive symptoms but instead allowed those who were eager to learn life skills based on ACT intervention techniques as well. Participation in this study was voluntary; hence, the participant had the right to withdraw at any time. In this regard, the withdrawal criteria were as follows: (1) voluntary withdrawal of the participants; (2) non-completion of the therapeutic sessions; (3) non-compliance or non-submission of the required data (incomplete or lack data submitted such as either no pretest or post-test) and; (4) inactive participation such non-submission or non-compliance with the intervention program activities given by the researcher-facilitator both during within-session and take home activities; and (6) incomplete or lack data submitted such as either no pretest or post-test.

2.4 Research Instrument

The depressive symptoms of the participants were measured using the Quick Inventory of Depressive Symptomatology Self-Rating (QIDS SR-16) by Rush, A. J. et al. (2003). The scale was created predominantly to assess depression severity and can be used as a screening test for depression. It is composed of 16 items investigating nine domains with a 4-point Likert-type scale ranging from 0-3, and the total score may vary from 0-27. A score of 16 to 20 may indicate severe depression and a score of 21 and above signifies very severe depression. It has a high internal consistency measure with Cronbach alpha of 0.86 scores, which are highly correlated with IDS-SR and HAM-D with *r* values of .96 and .86, respectively. In addition, the process measure of ACT was evaluated using the Multidimensional Psychological Flexibility Inventory or MPFI created by Rolffs, J.L. et al. (2016) was utilized. It is a 60-item measure to assess the six dimensions of psychological inflexibility and psychological flexibility. It has 12 subscales and two global composites measuring inflexibility and flexibility. MPFI has a 6-point Likert scale ranging from "never true" to "always true." All its subscales demonstrated high

levels of internal consistency with Cronbach's alphas ranging from .84 to .96, while the two composites, flexibility, and inflexibility, have α=.83 and .84, respectively.

2.5 Data Gathering Procedure

The researcher followed the following procedures: (1) Securing Letter of Approval. The researcher received approval from the CEU Institutional Ethics Review Board (IERB), the Program Head of the Psychology department, and the College Dean of the College of Arts & Sciences, Taguig City University, to conduct this longitudinal study (2) Recruiting participants. The researcher then started recruiting participants via their official group messenger accounts; (3) Screening participants. There was a screening of the participants' eligibility satisfying both the set of inclusion and exclusion criteria as stated in the selection of the participants; (4) Confirming participants. Participants who were permitted by submitting a fully signed informed consent to participate in the study were confirmed before gathering the baseline data; (5) Pretesting. Pretesting was administered using outcomes and process measures. These are the Multidimensional Psychological Flexibility Inventory (MPFI) and the Self-Report Quick Inventory of Depressive Symptomatology (QIDS-SR_{16}); (6) Facilitating intervention program. The researcher facilitated a three-session ACT psychoeducation intervention program for all participants via Google Meet by adopting and modifying the various intervention techniques or activities. The therapeutic sessions had an estimated 90–140-minute time allocation per session.

The researcher facilitated one session per week for three consecutive weeks: (7) Monitoring. The researcher monitored the active participation of the participants and withdrawal from the study. Since the intervention sessions were held via an online platform, the researcher monitored the participation by requiring the participants to submit activities, both on-session and take-home activities, through the Google Classroom account to ensure that the participants had a full engagement in the 3 intervention sessions; (8) Post-testing. After two months, post-testing was given using the same research instruments during the pretesting via Google Forms; (9) Filtering responses. The researcher filtered all the participants' responses and eliminated those participants with missing variables or items, non-compliance with the required data, non-completion of the three-session intervention, and non-compliance with within-session and take-home activities; (10) Drawing out samples. The researcher used purposive sampling, specifically, homogenous sampling techniques in drawing samples out of all participants; lastly, (11) Analyzing data. The researcher then proceeded to data analysis.

2.6 Ethical Considerations

Participation in this research was voluntary and could be withdrawn at any time. The participants were well informed of the research's nature, process, and duration. They were of legal age and capable of giving consent, which was a primary requirement for their participation. Hence, there were no participants under 18 years of age. There were no anticipated risks or adverse effects from participating in this study. On the other hand, involvement in this research could help develop some life skills, techniques, and coping strategies when encountering inevitable stressors. There were learning sessions or psychoeducational activities which provided additional information and knowledge. The 3-sessions helped build psychological flexibility and be more optimistic and emotionally resilient, which were identified as some of the potential benefits. However, the researcher served as an investigator only and not as a mental health service provider. The researcher had no conflicts of interest to disclose. Moreover, engagement in this study as a volunteer involved no incentives or monetary compensation.

3.0 Results and Discussion

Table 1. Distribution of depression levels among participants on the baseline data and two (2) months after.

		Two (2) Months After (Post-Test)					Total	Percentage (%)
		Normal	Mild	Moderate	Severe	Very Severe		
Baseline Data (Pretest)	Normal	9	1	0	0	0	10	8.06%
	Mild	17	11	5	0	0	33	26.61%
	Moderate	2	23	13	3	0	41	33.06%
	Severe	4	9	14	5	0	32	25.81%
	Very Severe	0	1	3	2	2	8	6.45%
Total		32	45	35	10	2	124	100%
Percentage (%)		25.81%	36.29%	28.23%	8.06%	1.61%	100%	

The results presented in Table 1 showed that 41 or 33.06 percent got moderate levels of depression during the baseline testing; 23 out of 41 had improved symptom levels and became mild, and 2 became normal, while 3 got elevated symptoms after two months. More so, out of 32 or 25.81 percent of those with severe symptom levels, 27 improved; for those with mild symptom levels, 17 improved, exhibiting typical symptoms in the post-testing. Overall, 40 participants had the same symptom levels in pretesting and post-testing; 9 got elevated, while 75 participants, or 60.49 percent, showed improved symptom levels after two months. It can be observed that there were evident changes in depression levels among the participants. Hence, this indicates that there was a reduction in depression levels among the participants within two months of using ACT intervention. This result affirmed the finding in the study of Saedy et al. (2015) that short-term ACT is associated with a significant decrease in the level of depression. Also, the study by Kyllonen et al. (2018) concluded that 60 to 70 percent of participants who were depressed benefitted from the brief six-hour ACT therapeutic intervention facilitated by beginner therapists. Moreover, these results supported Zhao et al. (2023), who determined ACT's effectiveness in reducing depression symptoms among Chinese patients with a statistically significant difference.

Table 2. Comparison of the participants' depression in the baseline data (pretest) and two (2) months after (post-test)

Domains	Groupings	Mean	S.D.	t-value	p-value	Interpretation
Depression	Pre	12.5	4.86	9.51	P = 0.000 < 0.05	Significant
	Post	9.23	4.68			

It can be recognized (see Table 2) that the participants had a mean of 12.54 and a standard deviation of 4.863 in their pretest. After two months, the depression mean score was 9.23 with a standard deviation of 4.678 and a p-value of 0.000, less than the alpha level of 0.05. The finding connotes that there was a significant difference between the pretest and post-test data on depression. Therefore, psychoeducation ACT-based group intervention via online format minimized the participants' depression significantly within two months. This supports the research findings of Coto-Lesmes et al. (2020), who concluded that group-based ACT was proven to be beneficial in treating emotional disorders and found to have significant improvements in depression in the post-evaluation and the 2- to 18-month follow-up. Ahmadsaraei et al. (2017) found that psychotherapy such as ACT can reduce depression and the burden caused by physical illnesses and increase the quality of life. Similarly, the results also agreed with the study conducted by Heydari et al. (2018), and Karimi and Aghaei (2018) concluded that ACT could reduce or improve rates of depression, anxiety, and perceived stress.

Table 3. The difference between the participants' depression symptoms in the baseline data (pretest) and two (2) months after (post-test)

Domains	Groupings	Mean	S.D.	t-value	p-value	Interpretation
Sleep Disturbance	Pre	2.24	0.800	4.626	P = 0.000 < 0.05	Significant
	Post	1.90	0.840			
Sad Mood	Pre	1.58	0.797	6.133	P = 0.000 < 0.05	Significant
	Post	1.13	0.721			
Appetite/Weight	Pre	1.56	0.904	4.462	P = 0.000 < 0.05	Significant
	Post	1.17	0.890			
Concentration	Pre	1.33	0.718	4.022	P = 0.000 < 0.05	Significant
	Post	1.05	0.785			
Self-Criticism	Pre	1.29	1.201	5.959	P = 0.000 < 0.05	Significant
	Post	0.61	0.908			
Suicidal Ideation	Pre	0.73	0.849	4.726	P = 0.000 < 0.05	Significant
	Post	0.44	0.724			
Interest	Pre	1.08	0.861	2.977	P = 0 < 0.004	Significant
	Post	0.80	0.796			
Energy/Fatigue	Pre	1.40	0.873	3.479	P = 0.001 < 0.05	Significant
	Post	1.09	0.884			
Psychomotor Agitation/ Retardation	Pre	1.33	1.002	3.558	P = 0.001 < 0.05	Significant
	Post	1.04	0.974			

As shown in Table 3, it can be noted that symptoms such as sad mood, self-criticism, suicidal ideation, sleep disturbance, appetite, and concentration (t = 6.133, 5.959, 4.726, 4.626, 4.462, and 4.022) all have p-values of 0.000. Moreover, symptoms such as psychomotor agitation/retardation and energy/fatigue (t = 3.558 and 3.479) both got a p-value of 0.001. In contrast, interest symptoms (t = 2.977) had a p-value of 0.004 in which all were below the alpha level of 0.05. This implied that there were significant differences in the depression symptoms among the participants comparing the baseline data and two (2) months after. Hence, ACT intervention delivered via an online platform significantly lowered the depression symptoms among the participants. This result agreed with the findings of several research that the ACT intervention facilitated via web-based or mobile-based showed significant improvement in addressing depression symptoms (Lappalainen et al., 2014; Lappalainen et al., 2015;

Rasanen et al., 2016; Puolakanaho's et al., 2023). More so was consistent with the study by Kohtala (2018), which indicated that the four (4)- session ACT intervention significantly reduced depressive symptoms and improved the participants' overall well-being. Puolakanaho et al. (2023) suggested that a brief six to eight weeks of therapy program can elevate well-being and decrease depression.

Table 4. Difference in the psychological flexibility and its processes in the baseline data (pretest) and two (2) months after (post-test)

Domains	Groupings	Mean	S.D.	t-value	p-value	Interpretation
Acceptance	Pre	3.69	0.834	-5.199	P = 0.000 < 0.05	Significant
	Post	4.06	0.835			
Present Moment Awareness	Pre	3.87	0.955	-5.771	P = 0.000 < 0.05	Significant
	Post	4.38	0.896			
Self-As-Context	Pre	4.07	0.952	-5.597	P = 0.000 < 0.05	Significant
	Post	4.51	0.973			
Defusion	Pre	3.45	0.933	-2.974	P = 0.004 < 0.05	Significant
	Post	3.70	0.903			
Values	Pre	4.39	0.955	-2.500	P = 0.014 < 0.05	Significant
	Post	4.60	0.956			
Committed Action	Pre	4.24	1.000	-1.845	P = 0.067 > 0.05	Not Significant
	Post	4.39	0.985			
Flexibility	Pre	3.95	0.696	-6.422	P = 0.000 < 0.05	Significant
	Post	4.27	0.691			

As displayed in Table 4, results showed that the psychological flexibility (t = -6.422), along with its processes, such as present moment awareness, self-as-context, and acceptance (t = -5.771, -5.597, and -5.199), got a p-value of 0.000 while defusion, and values (t = -2.974, and -2.500) had a p-value of 0.004 and 0.014 respectively. However, the committed action (t = -1.845) got a p-value of 0.067. Though there was a higher mean in the post-test (M = 4.39) than in the pretest (M = 4.24), the difference was insignificant since the p-value was more significant than the alpha level of 0.05. Overall, these entailed that the participants showed increased psychological flexibility. These findings have similar results to the dissertation conducted by Kohtala (2018), who concluded that short-term ACT intervention successfully increased psychological flexibility, satisfaction with life, social functioning, and self-confidence among people suffering from low mood and depressive symptoms.

Conversely, though there was an increase in the mean of Committed Action (from 4.24 to 4. 39), it was insignificant. This was possibly due to several reasons, such as it requires persistence, the ability to change, sensitivity to the situations, connection to one's values and goals, and the ability to incorporate experiences, both good and bad, as part of the process of engagement (McCracken, 2013). Hence, it takes time to develop such a core process of psychological flexibility in committed action. Consequently, as per the intervention program, it was the last core process presented during the third and last session by the researcher-facilitator, and the participants only had more than a week before taking post-testing. Thus, a longer time interval may increase the committed action among participants, primarily since ACT is known to have a more prolonged maintenance effect (Bai et al., 2020).

Outcomes showed (see Table 5) that the psychological inflexibility (t = 4.525) and its core processes, such as self-as-content and fusion (t = 4.321 and 4.306), got a p-value of 0.000. In contrast, lack of contact with values (t = 3.514) had a p-value of 0.001, which implied a significant difference. However, the experiential avoidance (t = .729) with a p-value of 0.468, which was greater than the alpha level of 0.05, entailed no significant difference between the pre-and post-intervention. This can be explained, however, by the fact that although there was a decrease in experiential avoidance among participants, ACT focused more on the present than the past or future. Hence, it can be inferred that depression is dealing more with the past, and for people who have comorbidity with trauma, ACT may not be the most suitable therapeutic technique (Jensen, 2022). In general, participants showed a significant decrease in psychological inflexibility. This result matched the findings of Levin et al. (2014), who discussed that contextual cognitive behavioral therapies, including ACT, have been found to impact various clinical problems by reducing psychological inflexibility.

Table 5. Difference in the psychological inflexibility and its processes in the baseline data (pretest) and two (2) months after (post-test)

Domains	Groupings	Mean	S.D.	t-value	p-value	Interpretation
Experiential Avoidance	Pre	4.22	1.006	0.729	P = 0.468 > 0.05	Not Significant
	Post	4.15	1.098			
Lack Of Contact with the Present Moment	Pre	3.31	1.052	2.928	P = 0.004 < 0.05	Significant
	Post	3.03	1.057			
Self As Content	Pre	3.71	1.159	4.321	P = 0.000 < 0.05	Significant
	Post	3.28	1.178			
Fusion	Pre	3.62	1.218	4.306	P = 0.000 < 0.05	Significant
	Post	3.20	1.278			
Lack Of Contact with Values	Pre	3.05	1.139	3.514	P = 0.001 < 0.05	Significant
	Post	2.72	1.152			
Inaction	Pre	3.30	1.163	2.918	P = 0.004 < 0.05	Significant
	Post	3.00	1.205			
Inflexibility	Pre	3.53	0.827	4.525	P = 0.000 < 0.05	Significant
	Post	3.23	0.896			

The results revealed (see Table 6) that the regression model is exploring the impact of ACT's psychological flexibility and psychological inflexibility on depression among the participants. It can be inferred that F (2, 121) = 33.80 and a p-value of less than .001 indicated that psychological flexibility and psychological inflexibility have a significant impact on depression.

Table 6. ACT's psychological flexibility and psychological inflexibility on depression regression model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	964.8	2	482.4	33.80	p = 0.001<0.05
	Residual	1727	121	14.27		
	Total	2692	123			

a. Dependent Variable: Depression
b. Predictors: (Constant), Psychological Inflexibility, Psychological Flexibility

In addition, as shown in Table 7, the results presented showed that the variance in the outcome variable with an R2 value of .36, revealing that psychological flexibility and psychological inflexibility explained 36% of the variance in depression with a p-value of 0.000, was found to be significant.

Table 7. Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.599[a]	0.358	0.348	3.77780	0.358	33.801	2	121	p=0.000 < 0.05	1.891

a. Predictors: (Constant), Psychological Inflexibility, Psychological Flexibility

b. Dependent Variable: Depression

The findings (refer to Table 8) disclosed that psychological flexibility (β = -0.24, p = 0.001) and psychological inflexibility (β = 0.51, p <0.000) significantly have an impact on depression among the participants. Thus, an improvement in psychological flexibility and a reduction in psychological inflexibility showed a decrease in depression and its symptoms. These findings agreed with the results of a multiple regression analysis study by

Abdul-Aziz et al. (2020), which concluded that the strongest predictor of depression is psychological inflexibility. Also, Masuda A. et al. (2014) concluded that an elevated psychological inflexibility was associated with higher depressive, somatic, and anxiety symptoms. More so, previous studies found that depression was inversely related to psychological flexibility (Yao et al., 2023; Abdul Aziz et al., 2020); lower psychological flexibility was highly associated with higher depression and stress symptoms among adolescents (Puolakanaho et al., 2023); while high psychological flexibility was related to low depression, anxiety, and stress among college students (Wang et al., 2023).

Table 8. Statistical significance of psychological flexibility and psychological inflexibility as predictors towards depression

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	7.640	2.635		2.899	0.004		
Psychological Flexibility	-0.330	0.100	-0.244	-3.316	p=0.001 < 0.05	0.979	1.021
Psychological Inflexibility	0.535	0.077	0.512	6.964	p=0.000 < 0.05	0.979	1.021

a. Dependent Variable: Depression

On the other hand, greater psychological inflexibility was strongly correlated with higher perceived stress, loneliness, and depression among college students during the pandemic (Radyani et al., 2021), linked with high levels of depressive symptoms and sleep difficulties among university students (Kato, 2016); and greater somatic, depressive, and anxiety symptoms (Masuda et al., 2014). There were also parallel results with the study conducted by Strange et al. (2017), who suggested that psychological flexibility may be attenuated in major depressive disorder and that psychological inflexibility was associated with greater severity in depression. Similarly, the findings of Padir et al. (2024) showed that the change in the level of psychological flexibility/inflexibility has a significant effect on psychological distress, such as depression, anxiety, and stress. In terms of the degree of relationship, the result of this study was consistent with the observed result of cross-sectional correlations with psychological inflexibility and symptomatology, in which correlations range between 0.31 and 0.61 (Hernández-López, 2021).

Table 9. Effect size of act intervention in alleviating depression and its symptoms with two months interval

Domain	Mean	S.D.	Sig.	Cohen's *d*	95% Confidence Interval	
					Lower	Upper
Depression	3.31	3.88	0.001	0.85	0.65	1.06
Sad	0.45	0.82	0.001	0.55	0.36	0.74
Self-Criticism	0.68	1.27	0.001	0.54	0.35	0.72
Suicidal	0.29	0.68	0.001	0.42	0.24	0.61
Sleep	0.34	0.82	0.001	0.42	0.23	0.6
Appetite	0.4	0.99	0.001	0.4	0.22	0.58
Concentration	0.28	0.78	0.001	0.36	0.18	0.54
Psychomotor Agitation	0.29	0.91	0.001	0.32	0.14	0.5
Fatigue	0.31	0.98	0.001	0.31	0.13	0.49
Interest	0.28	1.06	0.004	0.27	0.09	0.45

It can be noted that ACT intervention, with $d = 0.85$, is interpreted as a large effect size in the outcome variable. Hence, Acceptance and Commitment Therapy has been essentially effective in alleviating depression symptoms among the participants at two-month intervals. This result supports the study of Zhao et al. (2023), who stated that ACT notably improves depressive symptoms and psychological flexibility among Chinese participants. Similarly, a longitudinal study by Rutschmann et al. (2022) found a significant decrease in symptomatology with $d = 0.82$ to 0.99, $p<0.001$ among patients in a psychiatric hospital. Moreover, the intervention group was reported

to have higher psychological flexibility, well-being, and school engagement, while there was lower depression, anxiety, and stress among university students (Gregoire et al., 2018).

4.0 Conclusion

ACT-based therapeutic learning sessions for group intervention delivered via a synchronous online discussion using a longitudinal naturalistic design with two (2) month intervals significantly alleviating depression and its symptoms among students in a local university. Next, ACT's psychological flexibility and psychological inflexibility remarkably have an impact on depression among the participants. Hence, as the participant becomes more psychologically rigid, the more likely he or she is to be depressed or experience more symptoms of depression. Therefore, it is highly recommended that in this fast-paced, technological era, effective, transdiagnostic, and less time-consuming therapies are more relevant and practical. Thus, school psychologists and guidance counselors could utilize or include ACT intervention in their practices. Furthermore, faculty members could include certain ACT intervention activities in their course program or curriculum that would enhance students' well-being and academic performance.

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7.0 Conflict of Interests

There is no conflict of interest to be disclosed by the researcher.

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Citizens' Awareness and Dissemination of Local Government Unit (LGU) Processes in General Santos City

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Abstract. This study examined citizen awareness of Local Government Unit (LGU) processes and their dissemination in General Santos City. The primary objectives are to identify gaps in awareness, uncover dissemination challenges, and propose improvement recommendations. A descriptive correlational research design was used, with quantitative data gathered from 390 randomly selected respondents across 26 barangays. Structured questionnaires measured awareness on a 5-point Likert scale and dissemination on a 4-point Likert scale. Findings indicate high awareness of basic services and facilities, land management, and revenue generation. Dissemination effectiveness was rated moderately high. The study found significant positive correlations between dissemination extent and citizen awareness, with strong correlations for basic services and moderate correlations for land reclassification and revenue generation. These positive correlations suggest a promising potential for improvement. The study concludes that improving the dissemination of LGU processes is crucial for fostering informed, engaged communities. Recommendations include targeted, community-specific, and technology-driven communication strategies to enhance transparency, accountability, and citizen participation in local governance. These improvements are essential for more effective and responsive governance in General Santos City. The implications of this study suggest that enhancing dissemination practices can lead to better-informed citizens, promoting greater civic engagement and trust in local government.

Keywords: Citizen awareness; Local government unit (LGU); General Santos City; Governance.

1.0 Introduction

As global democratic norms evolve, citizen participation has become increasingly pivotal in promoting transparency, accountability, and effective decision-making within local government units (LGUs). In the Philippines, citizen participation gained significant momentum following the decentralization marked by the enactment of the Local Government Code of 1991. This legislation fundamentally restructured the relationship between the national government and local governments, a change of profound importance considering the Philippines' lengthy history of centralization under Spanish and American colonial rule.

Citizen awareness of LGU processes encompasses understanding the procedures, policies, and mechanisms that guide decision-making, resource allocation, and service delivery within local governments. This knowledge empowers citizens to make informed decisions, voice their concerns, and contribute meaningfully to the development of their barangays. Enhancing citizen participation is essential for effective public management, ensuring that governance remains true to democratic principles of openness and inclusivity.

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The involvement of civil society, through non-governmental organizations and people's organizations, has redefined "governance" in the Philippines. Traditionally, governance was viewed as the government's responsibility to deliver basic services and oversee local development efforts. However, due to resource constraints, corruption, and over-centralization, local governments often fail to meet these expectations. Consequently, governance has expanded to include alternative service delivery mechanisms, with civil society playing a crucial role in complementing government efforts.

Existing literature highlights the importance of citizen participation in enhancing governance. Studies by scholars such as Putnam et al. (1993) and Fung (2006) emphasize that informed and engaged citizens are crucial for the accountability and effectiveness of local governments. However, there remains a gap in understanding the relationship between citizen awareness and the dissemination of information within specific local contexts, such as the barangays of General Santos City. This gap is particularly significant given these areas' unique political, social, and economic dynamics.

This study explored the significant relationship between citizens' awareness of LGU processes and the extent to which this information is disseminated in the barangays of General Santos City. By developing a strategic framework for program orientation and dissemination, the study sought to enhance citizen engagement and empower individuals with the necessary knowledge to participate actively in local governance. Ultimately, this study contributes to the body of knowledge on citizen participation and effective governance by examining the intricate interplay between citizen awareness, dissemination, and local government processes. Its findings and recommendations aim to foster a more inclusive, informed, and participatory governance system in General Santos City.

2.0 Methodology

2.1 Research Design

This study utilized a descriptive-correlational research design. The correlational research method was employed to identify relationships between variables, while the descriptive research method was used to describe the data and characteristics of the study. This quantitative research design provided a comprehensive understanding of citizen awareness, dissemination practices, and factors contributing to gaps between them. It also measured citizens' awareness levels of LGU processes and how they were disseminated within the locality.

2.2 Research Participants

This study gathered information from 390 individuals living in General Santos City. Since the city comprises 26 barangays, samples were chosen randomly from each stratum to ensure all subgroups were represented, facilitating precise estimates and comparisons. Cluster sampling was used, where the population was divided into groups or clusters, and a random sample of these clusters was selected for analysis. This method ensured that relatively homogeneous groups were included in the study.

2.3 Research Instrument

The research instrument is a researcher-made questionnaire. The questionnaires comprised the following sections: Part 1: Respondents' demographic profile, Part 2: Assessment of respondents' level of awareness, and Part 3: Inquiry about the extent of LGU process dissemination channels used. A quantitative research design was employed to gather sufficient data to answer the study's problem.

2.4 Data Gathering Procedure and Analysis

Although face-to-face data gathering was preferred, the researcher coordinated with citizens across different barangays to schedule appointments. This approach allowed for direct engagement and in-depth responses from key participants. The data were analyzed descriptively and inferentially.

2.5 Ethical Considerations

Ethical guidelines were strictly followed. Informed consent was obtained from all participants, and anonymity was maintained. The dignity and well-being of respondents were protected, and data were kept confidential, used

only for this study, and not shared without consent. The collected information was handled responsibly to prevent any harm to participants.

3. 0 Results and Discussion

3.1 Level of Awareness of Local Government Unit Process

In terms of Basic Services Facilities

Table 1 presents the data on citizen's level of awareness regarding various basic services and facilities provided by the Local Government Unit (LGU) in General Santos City.

Table 1. Descriptive statistics of the citizen's level of awareness of the LGU process in terms of basic services facilities

Indicators	Mean	Interpretation
1. The citizens know that the LGU offers low housing, residential lots, and decent house and lot plans in the municipality.	3.70	High
2. Scholarships are also offered to poor but deserving students in the barangay. The same is true in the city municipality and the province.	3.98	High
3. Citizens are aware that health care services are free. In barangay health centers and public hospitals, indigent patients are given "point of care" privileges for their medication and treatment.	4.01	High
4. Citizens know social services, such as single-parent privileges, PWD, senior citizens, medical missions, feeding programs, and many more.	4.17	High
5. Citizens are aware of the water services in the barangay, municipalities, and cities.	3.94	High
6. Citizens know the regular conduct of barangay consultation and assembly to share their problems.	3.61	High
7. Citizens know the sanitation activities spearheaded by the barangay officials.	3.77	High
8. Citizens are aware of waste management and removal in the barangay.	3.92	High
Overall assessment	**3.89**	**High**

The overall mean score for awareness of basic services and facilities was high (M=3.89). Most indicators show consistent ratings, reinforcing the overall positive results. The literature on citizen participation aligns with the study's findings, showing that higher awareness and understanding of governmental processes increased citizen satisfaction and compliance (Thomas, 2012). The Theory of Citizen Participation suggests that well-informed citizens are more likely to participate in decision-making processes and support public policies. This participatory approach is essential in modern governance, where transparency, responsiveness, and accountability are key indicators of good governance (Michels & De Graaf, 2010). Additionally, the literature indicates that transparency and open communication can significantly enhance citizens' trust and cooperation with local authorities (Welch et al., 2005). A comparative analysis of Uganda's Local Councils (LCs) illustrates a similar trend. Research by Francis & James (2003) and Kiyaga Nsubuga and Olum (2004) shows that LCs in Uganda encourage community participation through self-help initiatives in areas such as education, water supply, health care, and road construction. LCs leverage local resources and employment opportunities to enhance community mobilization and decision-making.

In terms of the Reclassification of Lands

Table 2 presents data on citizens' awareness of the reclassification of lands within their barangay in General Santos City.

Table 2. Descriptive statistics of the citizen's level of awareness of the LGU process in terms of reclassification of lands

Indicators	Mean	Interpretation
1. Citizens are aware of the status of their lands and which authority they will seek help when problems arise.	3.74	High
2. Citizens know how to reclassify their lands and which government agency they will seek help.	3.71	High
3. Citizens are aware of the limitations of their privileges and rights in the barangay.	3.81	High
Overall assessment	**3.89**	**High**

The overall mean score of 3.76 indicates a high level of citizen awareness regarding land management and rights within the barangay. The consistently high scores across all indicators suggest that the barangay's educational efforts about land-related matters and citizen rights have been effective. This level of awareness is crucial for promoting responsible land management practices and ensuring that citizens can access the necessary support and resources.

Gucce and Galindes (2017) identify challenges related to citizen participation and regulatory clarity within Local Development Councils (LDCs). They highlight that current regulations often need more clarity on the roles and capacities required of community-based civil society groups to engage effectively in local development processes. Despite initiatives by the Department of the Interior and Local Government (DILG), such as the Assistance to Disadvantaged Municipalities (ADM) and the Seal of Good Local Governance (SGLG), the implementation of these measures still needs to be completed. While citizen awareness in General Santos City regarding land reclassification is notably high, this comparative analysis underscores broader challenges in enhancing citizen participation and clarity in local development processes, like those faced by LDCs. Addressing these issues involves strengthening the role of Civil Society Organizations (CSOs) and improving regulatory clarity, which could significantly enhance citizen engagement and governance outcomes across various local government functions, including land management and development planning.

In terms of Revenue Generation

Table 3 presents data on the citizens' level of awareness regarding revenue generation within their barangay in General Santos City.

Table 3. Descriptive statistics of the citizen's level of awareness of the LGU process in terms of revenue generation

Indicators	Mean	Interpretation
1. Citizens know the property taxes and the tax payment obligation.	3.74	High
2. Citizens in the barangay engaging in business are aware of the business tax.	3.79	High
3. Citizens know other locally imposed taxes, non-tax revenues from operation, and miscellaneous income and capital revenues.	3.64	High
Overall assessment	**3.72**	**High**

The overall mean score of (M=3.72) indicates a high level of citizen awareness regarding taxes and non-tax revenues in the barangay. Generally, the consistently high scores across all indicators suggest that the barangay's efforts in educating its citizens about tax obligations and non-tax revenues have been successful. This level of awareness is important for ensuring compliance, enhancing revenue collection, and fostering transparency in local governance. The data reveals that citizens in General Santos City are highly aware of their tax obligations and various sources of non-tax revenues. This awareness is crucial for ensuring compliance with local fiscal regulations, promoting responsible financial behavior among residents, and enhancing transparency in local governance. The high levels of citizen awareness regarding revenue generation contrast with broader challenges in local governance, like those faced by Local Development Councils (LDCs) in clarifying roles and improving participation. Strengthening efforts to educate citizens about fiscal responsibilities and enhancing regulatory clarity could improve governance outcomes across various local government functions, including revenue management and fiscal planning.

3.2 Level of Dissemination of LGU Processes to the Citizens

Table 4 presents data on how much LGU processes were disseminated to citizens in barangays within General Santos City.

Table 4. Descriptive statistics of the level of dissemination of LGU processes to the citizens

Indicators	Mean	Interpretation
1. Information drive. House to house	3.04	Moderately High
2. During barangay assembly	3.12	Moderately High
3. Special gathering/special meeting	2.94	Moderately High
4. Information drive. House to house	3.07	Moderately High
5. During barangay assembly	3.00	Moderately High
6. Special gathering/special meeting	2.89	Moderately High
7. Seminar on taxation in the barangay	2.80	Moderately High
8. The barangay constantly conducts orientation on taxation	2.78	Moderately High
9. The barangay smoothly disseminated all the LGU processes to the people	2.92	Moderately High
10. The barangays hold to the motto "ligtas ang may alam!"	3.04	Moderately High
Overall assessment	**2.96**	Moderately High

Table 4 describes the overall mean score as (M=2.96), indicating a moderately high level of awareness and effectiveness in the methods used to disseminate information. The data shows that the various methods the barangay employs to disseminate information, particularly about taxation, are moderately effective. This suggests

that while citizens are aware of tax-related information and other LGU processes, there is significant room for improvement.

This supports the development of a theoretical framework that incorporates the diversity of communities within a city. It suggests that the LGU should adopt a flexible and adaptive dissemination strategy that considers the unique characteristics of each barangay. Invest in diverse communication channels (social media, community meetings, local radio, etc.) to reach a broader audience. Use clear, accessible language and culturally relevant materials to ensure understanding across different community segments. Develop targeted campaigns for specific LGU processes to address the varying levels of correlation strength. For example, more intensive campaigns might be needed for land reclassification to achieve higher levels of awareness.

The findings imply that policymakers should focus on strengthening dissemination mechanisms to boost public awareness, which can lead to improved civic engagement and participation. The Theory of Citizen Participation underscores the importance of a feedback loop, where citizen input is continuously used to enhance governance processes (Fung, 2015). This is supported by literature that suggests that interactive and participatory communication methods lead to better policy outcomes and increased citizen trust in government (Roberts, 2004).

3.3 Relationship Between Citizen's Level of Awareness and the Level of Dissemination of LGU Processes to the Citizens

Table 5 presents the correlation between citizens' level of awareness and the extent to which information is disseminated on various LGU processes in different barangays of General Santos City.

Table 5. Relationship between citizen's level of awareness and the extent of dissemination on LGU processes

Variables	r	P-Value	Remarks
Basic Services and Facilities	0.663	0.0001	Significant
Reclassification of Lands	0.059	0.001	Significant
Revenue Generation	0.566	0.001	Significant

The spearman rho was used to determine whether there is a relationship between the Citizen's level of awareness and the extent of dissemination of these LGU processes in the different barangays of General Santos City. The result shows that when taken individually, Basic Services and Facilities and Reclassification of Lands (spearman rho=.00001) were significantly related to Revenue Generation. There is a strong positive correlation between Basic Services and Facilities and the variable it is being compared. This correlation is highly significant since the p-value is extremely low (0.0001). This suggests that as the value of Basic Services and Facilities increases, the related variable also tends to increase substantially.

Reclassification of Land shows a moderate positive correlation with its corresponding variable. The p-value indicates that this correlation is also highly significant. This suggests a moderate tendency for the related variable to increase as the reclassification of land increases. Similarly, revenue generation exhibits a moderate positive correlation. The significant p-value again confirms that this relationship is not due to random chance. As revenue generation increases, the related variable tends to increase as well.

The varying strengths of correlations (strong for basic services and facilities, moderate for land reclassification and revenue generation) suggest that the impact of dissemination efforts differs based on the type of information being shared. The Theory of Citizen Participation emphasizes that different participatory processes and activities require distinct communication approaches to effectively engage citizens (Quick & Bryson, 2016). The literature also highlights the importance of context-specific communication strategies, noting that different types of information and target audiences require tailored dissemination methods to be effective (Rowe & Frewer, 2005). Therefore, a theoretical model can be developed where LGU processes necessitate tailored dissemination strategies—broad-based communication for basic services and specialized channels for technical information like land reclassification.

4.0 Conclusion

The study's findings highlight a significant impact of dissemination efforts on citizen awareness of Local Government Unit (LGU) processes in General Santos City. The data indicates that citizens possess a relatively high

level of awareness regarding Basic Services and Facilities, land management, and revenue generation, reflecting a solid understanding of the LGU's functions and services. However, the study also reveals that the effectiveness of these dissemination efforts is moderate, suggesting considerable potential for improvement. The analysis underscores the robust positive correlations between information dissemination and citizen awareness across all evaluated domains. This correlation demonstrates that effective communication strategies enhance public knowledge and understanding. The study finds that improved dissemination practices notably boost awareness concerning Basic Services and Facilities. This relationship emphasizes that more targeted and efficient dissemination efforts could significantly elevate citizen awareness and engagement. Future research could explore the specific methods and technologies that most effectively enhance dissemination efforts and assess the long-term impacts of improved communication on citizen engagement and governance outcomes.

5.0 Contribution of Authors

The author reviewed, wrote, and approved the final work independently.

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7.0 Conflict of Interest

There is no conflict of interest.

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Suicide Prevention Mechanism Survey: Basis for Mental Health Intervention Program

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Abstract. To answer the call for a race against suicide, the study was conducted in pursuit of identifying the situation of the learners in their mental well-being as a key in determining a school's mental health intervention program. The study used a mixed method research design, which utilized convergent parallel mixed method using an adopted and modified survey questionnaire for quantitative data and data triangulation for qualitative data and assessing whether the data converge or diverge. The study involves one hundred (100) pupil respondents chosen through purposive sampling. The study used descriptive statistics to analyze and interpret the data using weighted mean and standard deviation. Meanwhile, Colizzi's 1978 method of analysis and interpretation was adopted for qualitative data. Results revealed a high prevalence of mental health problems experienced in terms of education, physical body, sexuality, and depression, which needs an intervention plan. However, there is a low prevalence of mental health problems among respondents in terms of home, violence, and drugs, which does not need an intervention plan. Meanwhile, the challenges encountered by the learners' themes, such as education, stress/depression, and violence, emerged. For the impact, the emergent themes are mentally disturbed, low academic performance, and personal growth. On the other hand, prayer and communication emerged for coping mechanisms and positivity, and stress tolerance and communication emerged for insights. The study found that mental health fosters huge problems, especially for vulnerable individuals like children. They are the ones who cannot handle the anxiety and depression surrounded by many factors. Learners have experienced mental health issues, specifically in education, physical body, sexuality, and depression, which should not be disregarded because this can greatly affect their mental well-being. The study recommended having a school's mental health intervention plan focusing on education, physical body, sexuality, and depression.

Keywords: Intervention program; Mental health; Prevention mechanism; Resilient education; Suicide.

1.0 Introduction

Mental health continues to be a significant issue, particularly in the Philippines. According to Maramag (2020), the Department of Health (DOH), in partnership with the World Health Organization (WHO), is raising awareness of the importance of public mental health, especially during the COVID-19 pandemic. The Philippines has consistently ranked in the Top 5 of a global optimism index; however, the National Center for Mental Health (NCMH) has reported a significant increase in monthly hotline calls related to depression, with numbers rising from 80 calls pre-lockdown to nearly 400. The most vulnerable population is those aged 15-29, with mental health-related deaths being the second leading cause of fatalities in this age group. Moreover, the DOH has launched a multi-sectoral approach to mental health, implementing programs and interventions across various settings (e.g., workplaces, schools, and communities) targeting high-risk groups. The commemoration of World Suicide Prevention Day also highlights the plight of those suffering from severe depression.

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In the school setting, learners are still in the process of healing and coping with the trauma and depression caused by COVID-19. According to Thakur (2019), challenges related to the impact on students' mental health persist beyond the pandemic phase. While learners are now in the recovery phase, coping with learning loss remains a continuous challenge, potentially leading to anxiety and depression that affect their mental well-being. Supported by Li's (2022) findings, the pandemic has adversely affected student mental health, resulting in an increased prevalence of Major Depressive Disorder (MDD) and Generalized Anxiety Disorder (GAD). These conditions may significantly impact students, causing frustration, stress, and sadness. Republic Act No. 11036, or the Mental Health Act, mandates the provision of comprehensive suicide prevention services, including crisis intervention and response strategies on a nationwide scale. The Department of Education (DepEd) incorporates mental health into various activities and the curriculum, such as the Homeroom Guidance program through DepEd Order 74, s. 2021, which promotes mental health in all DepEd events and programs. Additionally, DepEd Order 14, s. 2020, which guides the required health standards in basic education offices and schools, emphasizes the importance of mental health and psychological support services to improve and strengthen the mental resilience of all learners and DepEd personnel.

In Cagayan de Oro City, Jayme Leonen-Pagaspas, the head psychologist at the Psychosocial Division of the City Social Welfare and Development (CSWD), cited data from the City Disaster Risk Reduction and Management Department (CDRRMD) showing a 162% increase in suicides in the city compared to the same period in 2022. The CDRRMD data revealed at least 47 self-inflicted deaths in the city from January to April. In response to the alarming rise in suicides, local officials emphasized the need for a whole-of-society approach to address mental health issues. The spate of suicides in the city should serve as a wake-up call to the reality of depression as a mental health ailment (Corrales, 2023). City Mayor Rolando Uy announced plans to set up "mental health corners" in the city's 80 barangays and to train public school teachers in early detection and response to depression among students (Rappler.com). Furthermore, Salgados (2023) reported that Cagayan de Oro's Maharlika Bridge (formerly Marcos Bridge) claimed the lives of two young individuals who jumped into the strong currents below in apparent suicides.

In response, the Division of Cagayan de Oro City conducted suicide prevention training for guidance counselors designated through Division Memorandum No. 210, s. 2023. This training aimed to enhance participants' knowledge about suicide and self-harm, identify and classify students at risk who need immediate intervention, provide suicide risk assessment and intervention, and underscore the importance of a school mental health referral system. Chaudhry et al. (2022) stated that schools play a major role in promoting children's physical and psychological health and well-being. The mental health literacy of all key stakeholders, especially teachers, is critical to achieving this goal. Teachers' knowledge and beliefs about psychological problems influence how they address their students' mental health issues.

In parallel, Camp Evangelista Elementary School, through the initiative of the designated Guidance Counselor, conducted early intervention by surveying Grades IV to VI learners using a psychosocial history assessment. This assessment helped identify students at risk who need to be included in the suicide intervention program. Colizzi et al. (2020) emphasized the pressing need to develop or improve youth mental healthcare models that can implement prevention and early intervention strategies. The suicide intervention program aims to respond to the urgent call for a collective effort among parents and stakeholders to create a suicide-free community in the school and barangay.

This study aims to assess the mental well-being of learners, which will serve as a baseline for crafting and conducting a mental health intervention program. This study is intended to be a school prevention program to avoid cases such as suicide and other mental health-related issues. It is considered one of the school's best practices designed to combat mental health issues globally. This study is expected to significantly reduce the number of suicide cases not only in Cagayan de Oro City but also in the Philippines and worldwide. The researchers believe that conducting this study will help realize the Division of Cagayan de Oro City's mantra, "Nindot nga Tulonghaan sa Nindot nga Cagayan," by prioritizing the mental well-being of children in schools and ensuring that all learners are mentally safe, healthy, and protected, thus helping to break the stigma surrounding mental health.

2.0 Methodology

2.1 Research Design

This basic research used a mixed method research design using convergent parallel mixed method. Creswell, Plano, and Clark (2011) defined convergent parallel mixed method design where the researcher collects quantitative and qualitative data, analyzes them separately, and then compares the results to see if the findings confirm or disconfirm

each other. It aims to identify the issues and problems faced by the pupils related to mental well-being and dig deeper into their responses through employing the data triangulation method, which involves interviews and Focus Group discussions. For quantitative data, the study used an adopted and modified survey.
A questionnaire entitled Psychosocial History Assessment provided by the Department of Education, Division of Cagayan de Oro City, presents different factors affecting the mental health issues of the learners, such as Home, Education, Physical Body, Sexuality, Violence, Drugs, and Depression. The research adopted Colizzi's 1978 method of data analysis and interpretation to gather qualitative data, which involves reading and transcribing transcripts into meaning and from meaning into an emergent theme. This research design is best suited for this study since it would want to know the current mental health condition of the learners in school and, at the same time, investigate their challenges and coping mechanisms, which the result will serve as the basis for an intervention program.

2.2 Research Participants
The total population of elementary pupils in Camp Evangelista Elementary School is one thousand seven hundred (1300) learners from kindergarten to Grade Six. The total respondents of this study are the one hundred (100) pupil respondents from Grades IV-VI of Camp Evangelista Elementary School, which was determined using a purposive Sampling Method following specific criteria a.) The learner is a bonafide Camp Evangelista Elementary School pupil, b.) The learner is identified at risk based on the pre-evaluation survey. Nikolopoulou (2023) defined purposive sampling as a technique in which units are selected according to their characteristics to be used in the study.

2.3 Research Instrument
This study used an adapted and modified survey questionnaire from the Psychosocial History Assessment provided by the Division of Cagayan de Oro City using a 4-point Likert Scale. The study used descriptive statistics to analyze and interpret the data, including the frequency, mean, and standard deviation as a table. The questionnaire underwent validation by the master teachers and school principal, and a sampling of five (5) pupils from another school were excluded as study respondents.

2.3 Data Gathering Procedure
This study used specific steps to gather both qualitative and quantitative data. A preliminary preparation before the study was conducted was securing permission from the school principal through a consent letter. After the approval, the author submitted a research proposal to the Schools Division Research Committee for approval subject to implementation. After approval, the authors sent a letter of consent to the respondents' parents. The letter's content includes the research title, the author's name, the number of respondents, the study's duration, and the study's objectives. To ensure full support and cooperation, an online orientation was conducted with the learners, parents, and school head through video conferencing using the Zoom Meeting Cloud App following the DepEd Order No. 026 s: 2021 or the Research Management Guidelines in the New Normal. After the orientation, the researcher started administering the survey questionnaire to the respondents. The data was gathered by administering survey questionnaires to the respondents by grade level. The teachers in charge were instructed to explain the questions if the respondents could not understand them. After administering the assessment survey, they were instructed to collect and return the questionnaires to the designated school guidance counselor. After gathering the quantitative data, the qualitative data was gathered through interviews and Focus Group discussions (FGD) to gather data from various sources.

2.4 Data Analysis
To interpret and analyze the data, the study used descriptive statistics, including weighted mean and standard deviation, for qualitative data using SPSS software. Meanwhile, Colizzi's 1978 method of analysis and interpretation was adopted for qualitative data. Results revealed a high prevalence of mental health problems related to education, physical body, sexuality, and depression, which needs an intervention plan.

2.5 Ethical Considerations
The learners' responses were treated with utmost confidentiality in adherence to RA 10173, the Data Privacy Act. This research study followed ethical guidelines, such as asking for permission from the rightful authors to adopt and modify their questionnaire through email and not disclosing any sensitive information since the study covers sensitive issues from the respondents.

3.0 Results and Discussion

3.1 Mental Health Issue Experienced

Home

Table 1 depicts the responses of the learners about their mental health issues at home.

Table 1. Descriptive statistics of the mental health issues experienced in terms of home

Indicators	Mean	SD	Description
1. My family's problems directly or indirectly concern me.	2.73	0.95	High
2. My parents/guardians listen and take my feelings seriously.	2.03	0.94	Low
3. I have seriously thought of running away from home.	3.02	1.10	Very High
4. I have experienced major family changes which affect my mental well-being.	2.45	0.86	Low
5. I have faced quarrels and misunderstandings among other family members.	1.86	0.84	Low
Total	**2.42**	**0.94**	**Low**

The statement "I have seriously thought of running away from home" acquired the highest mean of 3.02 (SD 0.94), described as High. This indicates that most respondents feel unsafe and uncomfortable in their homes. The thought of running away from home further implies that they cannot face the problem anymore and that they have not found someone in their homes with whom they can talk to help ease their feelings. The study of Rado (2019) supports the idea that running away from home is a serious problem among youth. It has been linked to numerous negative social, psychological, and behavioral outcomes. It is well established that family dysfunction is one reason that youth run away from home. Additionally, according to 2019 Statistics on Runaway and Homeless Youth, socioeconomic status, education level, gender and sexual identity, peer groups, and family dynamics — are all examples of factors that may be related to youth running away or becoming homeless. In addition, the study of Borah (2023) asserted that the quality of the home affects the mental health of children and academic achievement of the child. Children develop good mental health if they are treated properly at home. Determining the determinant factors of the mental health of adolescents and how it prevents mental illness among adolescents is crucial so we can evaluate further the causes of the problems of the children that affect their mental well-being. In a mile state, when children are treated well at home, they will have good academic performance in school because they are not mentally disturbed, and they have peace of mind. So, it can be inferred that how the learners were nurtured at home will reflect how they behave in school.

On the other hand, the statement "I have faced quarrels and misunderstandings among other family members" obtained the lowest mean of 1.86 (SD 0.84), which is described as Low. This indicates that several respondents have experienced family quarrels with other family members. As observed, when family conflict arises, only the parents are involved in the quarrel, and they exclude their siblings from getting involved in the family conflict because they want to protect them against any possible impact on their mental well-being. It is already a Filipino practice to protect the children amid conflict and misunderstanding with other family members because they are not mature enough to handle such situations. Supported by Kouros (2020), reducing this type of chronic interparental conflict and tension helps children feel the emotional security they need for robust mental health – not only when they are young but also as adults. The finding postulates that there are still children who are mentally affected due to family quarrels and misunderstandings. Though it is considered "normal" for parents to have misunderstandings at home, proper parenting style and practice should be observed, especially in challenging situations like this. It is okay to have quarrels, but make sure that the children cannot hear especially bad words because, psychologically, it greatly impacts their mental well-being. This is congruent with the study of Hess (2022), which reveals that the increased inter-parental conflict is strongly related to decreased emotional warmth and increased negative communication in parents and to increased peer problems and decreased prosocial behavior in children.

Education

Table 2 illustrates the learners' responses about their mental health issues regarding education.

Table 2. Descriptive statistics of the mental health issues experienced in terms of education.

Indicators	Mean	SD	Description
1. My teacher is very strict and inconsiderate to me.	2.28	1.00	Low
2. I was involved in trouble with my classmates and schoolmates inside the school.	3.11	0.92	High
3. I had difficulty complying with the performance tasks due to financial constraints.	3.57	0.63	Very High
4. I was bullied in school or on any other occasion.	3.42	0.89	Very High
5. I had difficulty understanding my lessons in different subject areas.	2.18	1.12	Low
Total	**2.91**	**0.91**	**High**

The statement "I had a hard time complying with the performance task due to financial constraint" attained the highest mean of 3.57 (SD 0.63), described as High. This shows that most respondents struggle to comply with their performance tasks because they lack financial support. Although financial support from parents does not hinder success in education, it greatly impacts the learners' ability to comply with the requirements needed to achieve a better grade. Hence, when parents fail to support their children in school by providing financial assistance in complying with their projects, they can feel stressed, which affects their mental well-being. This is evident in the study of Polinar et al. (2023) that pupils in public schools frequently have financial issues that negatively affect their mental health, academic achievement, and physical wellness. It can be inferred that the lack of financial support affects not just the mental stability of the learners but also their academic performance in school. Additionally, the study by Moore et al. (2021) states that the inability to participate in activities with peers is one of the students' most salient financial stressors. Furthermore, as demonstrated by students' firsthand experiences, their inability to participate in on-campus events or more informal social gatherings led to embarrassment, shame, and frustration. These adverse effects on peer-to-peer relationships are striking, as social support is one of the strongest predictors of one's well-being. Aside from financial difficulties, they also need help academically, particularly as they adjust to the Department of Education's mandate that all public schools return to face-to-face instruction. As a result, the researchers conclude that teachers should devote some of their time to engaging in in-depth interactions with their learners and learning about their personal lives and routines. The fact that someone is willing to listen to their concerns will make students happy and content, and they will gradually place their trust and confidence in that teacher.

On the other hand, the statement "I had a hard time understanding my lessons in different subject areas" attained the lowest mean of 2.18 (SD 1.12), which is described as low. This implies that some respondents had difficulty understanding their lessons because they came from a modular distance learning modality. Now that they are in face-to-face classes, they have learning loss and learning gaps in different subject areas. If the teacher does not return to basic competencies from the previous grade levels, learners will have difficulty understanding the lesson since they lack prior knowledge. Connectedly, the study of Engzell et al. (2021) supported that losses are up to 60% larger among students from less-educated homes, confirming worries about the uneven toll of the pandemic on children and families. In a mile state, it can be inferred that learners from the pandemic have difficulty learning since they have experienced learning loss due to distance learning. Hence, they had a hard time coping with difficult lessons, and their mental well-being was affected. According to turnbridge.com (2021), when facing academic stress, adolescents and young adults are more likely to develop anxiety or depression. They also experience less well-being and tend to do poorly in school. When given a better academic situation or academic support, research suggests that students experience improved mental health, meaning they can do their best in school.

Physical Body

Table 3 displays the responses of the learners about their mental health issues in terms of physical health.

Table 3. Descriptive statistics of the mental health issues experienced in terms of the physical body.

Indicators	Mean	SD	Description
1. I am satisfied with the way I look/ I weigh.	2.58	0.98	Very High
2. I am conscious of my body physique, e.g., fat or thin	3.48	0.82	Very High
3. I am aware of the changes in my body, and I feel insecure about it.	3.28	0.96	Very High
4. I tried to lose weight or maintain weight by vomiting, taking diet pills, laxatives, or starving myself.	2.56	1.20	High
5. I was bullied at home and in school about my body physique.	3.27	0.79	Very High
Total	**3.03**	**0.95**	**High**

Table 3 displays the responses of the learners about their mental health issues in terms of physical health. The statement "I am conscious of my body physique, e.g., fat or thin," acquired the highest mean of 3.48 (SD=0.82), which is described as "At all Times." This pertains to most respondents in their adolescent stage, where they can experience rapid growth and body changes. During their young ages, they need someone who can help them understand their body changes, such as parents and teachers. Failure to do this can lead to body consciousness and affect their mental well-being. Almarshad et al. (2019) stated that parents should be more aware of the mental status of their children, especially during adolescence, as the prevalence of mental disorders has significantly increased over time. In a mile state, parents' and teachers' collaboration on nurturing students' good behavior will decrease the prevalence of depression, anxiety, and stress among students in society. Children at their adolescent

stage suffer anxiety and depression, especially in the face of their body changes. They are very sensitive when it comes to their weight and physical appearance as their emotion start to mature and develop feelings toward the opposite sex. Hence, this needs thorough guidance from the parents so that they can understand their body changes. According to the World Health Organization (2021), adolescence is crucial for developing social and emotional habits that are important for mental well-being. These include adopting healthy sleep patterns, exercising regularly, developing coping, problem-solving, and interpersonal skills, and learning to manage emotions. Protective and supportive environments in the family, school, and wider community are important. This proves that young adolescents have personal problems regarding their physique and appearance, which is why parents need to guide their children so they can understand throughout the adolescent stage.

On the other hand, the statement "I tried to lose weight or maintain weight by vomiting, taking diet pills, laxatives, or starving myself" obtained the lowest mean of 2.56 (SD=1.20), which is described as "Most of the Time." This means some learners opt to lose weight through taking medicines or having a diet because, during adolescence, they grow fast, so their body needs food and nutrients for their growth and development. They have their ideal body figure so they will be accepted in a certain group, such as a circle of friends or admirers. Supported by Fleming (2020), many adolescents experience a growth spurt and an increase in appetite and need healthy foods to meet their growth needs. It is notable that during the adolescent stage, their body needs more energy and nutrients, which makes them eat too much until this becomes a hobby, which can lead to obesity. This is why children choose a healthy diet to maintain healthy bodies and avoid obesity. When they are obese, they will be prone to bullying in school, which can affect their self-esteem and mental well-being. According to the National Institute of Health (2024) states that teenagers who experience significant psychiatric symptoms, particularly depression and anxiety, are more likely to engage in extreme dieting practices. It can be inferred that when adolescents have more problems, they are more likely to have eating disorders, which greatly affect their health and mental health, resulting in obesity.

Sexuality

Table 4 depicts the responses of the learners about their mental health issues in terms of physical health.

Table 4. Descriptive statistics of the mental health issues experienced in terms of sexuality

Indicators	Mean	SD	Description
1. I found the joy of playing with my sex organ.	1.74	0.91	Very Low
2. I felt strongly attracted to somebody, which bothered me.	3.62	0.62	Very High
3. I have experienced gender and role confusion (I think I may be gay, lesbian, or bisexual.)	3.34	0.79	Very High
4. I was bullied due to my sexual preference.	3.49	0.85	Very High
5. I have experienced sexual abuse.	1.04	0.25	Very Low
Total	**2.65**	**0.68**	**High**

The statement "I felt a strong emotional attraction to somebody which bothered me" obtained the highest mean of 3.62 (SD=0.62), described as Very High. This means that during adolescence, learners experience strong emotional attraction or the so-called "crush" with their classmates and schoolmates. Based on the study of Tianyu et al. (20221), adolescent romance should be regarded as a natural physiological development. It is an important opportunity for adolescents to learn how to maintain intimacy and build a positive self-concept. Simply prohibiting and opposing adolescent romance is not an effective educational strategy. Instead, it will increase the psychological pressure of young people in a relationship and increase the risk caused by romance. On the other hand, the statement "I have experienced sexual abuse" garnered the lowest mean of 1.04 (SD=0.25), which means Very low. This means that a minority of the respondents have experienced sexual abuse. It sounds alarming that there are learners in school who are victims of sexual abuse and are mentally affected because of this issue. In fact, according to the study of Radmanoviü (2020), the impact of sexual abuse on a child's health is associated with several negative medical and psychological consequences, violent behavior, and psychological problems. Sexual abuse in childhood is correlated with higher levels of depression, guilt, shame, self-harm, eating disorders, somatic symptom disorder, anxiety, dissociative disorders, sexual problems, and problems related to interpersonal relationships as well as psychoactive substance abuse.

Violence

Table 5 shows the responses of the learners about their mental health issues in terms of physical health.

Table 5. Descriptive statistics of the mental health issues experienced in terms of violence

Indicators	Mean	SD	Description
1. I have been touched/hit/slapped/kicked/pushed or shoved in any way by any person.	1.69	0.92	Low
2. I am physically hurt, threatened, or made to feel afraid by my family or relatives.	2.09	0.99	Low
3. I have someone in my family who has a gun, rifle, or firearm, and they taught me how to use them for self-defense.	1.63	0.65	Very Low
4. My parent's way of discipline is through hurting me.	3.27	0.91	Very High
5. When I encountered trouble in the classroom, me parents punished me and uttered hurtful words.	2.92	1.08	High
Total	**2.32**	**0.91**	**Low**

The statement "My parent's way of discipline is through hurting me" acquired the highest mean of 3.27 (SD=0.91), which means Very High. This postulates that children experience punitive discipline from their parents at home whenever they commit mistakes or are involved in trouble, whether at home or in school. This greatly impacts their mental well-being because, as children, it is part of their growth and development, which parents fail to understand. In line with the study of Fang (2022), punitive discipline can have harmful consequences on children, such as anxiety, depression, and aggressive behavior. These negative impacts further undermine children's mental and social development.

Meanwhile, the statement "I have someone in my family I live with who has a gun, rifle, or firearm, and they taught me how to use it for self-defense" got the lowest mean of 1.63 (SD=0.65), described as Very low. This pertains to the fact that a minority of the respondents lived in a family with a gun, rifle, and firearms. Since Camp Evangelista Elementary School is located inside the soldier's camp 4th Infantry Diamond Division, it is understood that the parents of these respondents are members of the Philippine Army; thus, they are exposed to guns at home. On the same line, Rajan and Nickerson (2022) stated that the impact of firearm violence on youth is significant. Exposure to violence is consistently associated with post-traumatic stress disorder (PTSD) symptoms and other internalizing symptoms, such as anxiety and depression, associated with a higher risk for suicide attempts and deaths.

Drugs

Table 6 displays the responses of the learners about their mental health issues in terms of physical health.

Table 6. Descriptive statistics of the mental health issues experienced in terms of drugs

Indicators	Mean	SD	Description
1. I used to get along with my friends who are cigarette and alcoholic users.	2.05	1.06	Low
2. I drink alcohol as a way of releasing my anxiety and depression.	2.64	0.52	High
3. I have experienced using street drugs /prohibited drugs with my classmates brought by curiosity.	1.20	0.52	Very Low
4. I experienced living in a chaotic environment where people are involved in different vices.	2.99	1.07	High
5. I experienced firsthand using prohibited drugs as a way of escaping from my problems.	1.21	0.44	Very Low
Total	**2.02**	**0.72**	**Low**

The statement "I experienced living in a chaotic environment where people are involved in different vices" acquired the highest mean of 2.99 (SD=1.07), which is described as high. This means most respondents lived in a chaotic environment surrounded by neighbors involved in different vices. Notably, the environment plays a huge factor in children's development, especially in learning. The theory about nature vs. nurture supports the idea that learners can learn and be influenced by the environment that surrounds them.

If the environment is chaotic, it hinders them from learning efficiently, which can negatively impact their mental well-being. Congruent with the study of Marsh (2020), chaotic home environments appear to correlate with a broad spectrum of adverse child, parent, and family outcomes. Meanwhile, the statement, "I have experienced using street drugs /prohibited drugs with my classmates brought by curiosity," received the lowest mean of 1.20 (SD=0.52), described as Very Low. This pertains to the fact that a minority of the respondents have experienced using street drugs at an early age. This is due to factors like lack of parental guidance, involvement in a gang, or having a family under the influence of prohibited drugs.

Depression

Table 7 reveals the responses of the learners about their mental health issues in terms of physical health.

Table 7. Descriptive statistics of the mental health issues experienced in terms of depression

Indicators	Mean	SD	Description
1. I easily feel anxious, sad, or depressed in any way.	3.58	0.64	Very High
2. I have thought of hurting myself or ending my life in any way.	1.84	0.82	Low
3. When I fail at times, I lose self-esteem and self-worth.	2.64	0.91	High
4. I am afraid to tell my parents whenever I encounter a problem, so I solve it in my way.	3.17	0.93	High
5. I prefer to be alone and trust no one when I suffer from depression.	3.02	0.89	High
Total	**2.85**	**0.84**	**High**

The statement "I easily feel anxious, sad, or depressed in any way" garnered the highest mean of 3.58 (SD=0.64), which means Very High. This indicates that most of the respondents are not emotionally vulnerable. They easily experience mood swings because this is part of their growth and development. However, when parents and teachers disregard these, their health can be affected. According to the World Health Organization (WHO), adolescence is crucial for developing social and emotional habits that are important for mental well-being. These include adopting healthy sleep patterns, exercising regularly, developing coping, problem-solving, and interpersonal skills, and learning to manage emotions. Protective and supportive environments in the family, school, and wider community are important. Additionally, Beirão (2020) supported the idea that depression in adolescence is a common mental health disease with a prevalence of 4–5% in mid to late adolescence. It is a major risk factor for suicide and can also lead to social and educational impairments. In line with this, it can be inferred that adolescents are prone to mental health problems because it is through this stage that their emotions and bodies begin to change. They easily feel attracted to their peers and are conscious of their bodies. In short, they are in the process of adjusting to the changes both physically, emotionally, and mentally. Thus, parents and teachers must teach and monitor them by giving counseling and advice that helps them understand the changes in themselves.

However, the statement "I have thought of hurting myself or ending my life in any way" received the lowest mean of 1.84 (SD=0.82) described as Low. This means that a minority of the respondents have thought of hurting themselves or ending their lives. This sounds very alarming because there are learners in the school who need prompt counseling to address their mental health condition. These learners suffered too much depression because they had already come up with hurting themselves. According to the study of Mani and Molazem (2019), attempting suicide by adolescents is influenced by numerous factors; the purpose of primary prevention is to identify individuals predisposed to attempting suicide based on the risk factors found in this study thus, educating the adolescents, families, and community, especially the schools, about the risk factors through workshops, brochures, seminars, media, promoting effective stress management strategies, and providing a support system for this group by healthcare providers. This requires immediate action through a collaborative effort of teachers, parents, and community stakeholders to work together in providing an immediate solution to this problem since it is evident that many suicide cases are happening in the city of Cagayan de Oro. This scenario reflects the lack of follow-up and communication between the parents and their children regarding the problems that affect their mental well-being. Too much exposure to these problems will result in committing suicide because they cannot handle the stress and pressure. A pleasant environment for these children always begins at home; thus, parents should know how to provide a good atmosphere where they can nurture the children to grow up responsibly, bringing these values as they engage in society.

Summary

Table 8 presents a summary of the responses of the respondents regarding their mental health problems in terms of seven (7) factors. The data revealed that the Physical Body received the highest overall mean of 3.03 (SD=0.95), which means High—followed by Education, which got an overall mean of 2.91 (SD=0.91), which means High; Sexuality, with an overall mean of 2.65 (SD=0.68), which means High; and Depression, with an overall mean of 2.85 (SD=0.84), which means High. This further implies that learners have experienced a high prevalence of mental health problems in terms of these factors. Since their overall mean is high, the school needs an intervention plan. Moreover, data also revealed that factors home received an overall mean of 2.42 (SD=0.94), which means Low; Violence received an average mean of 2.32 (SD=0.91), which means Low; and Drugs got an average mean of 2.02 (SD=0.72), which means Low. This implies that there is a low prevalence of mental health problems among these

factors since their overall mean is low. From the result, it can be inferred that it does not need an intervention plan since learners do not experience a high prevalence of mental health issues from these factors.

Table 8. Descriptive statistics of the summary of responses in terms of the seven (7) factors

Components	Overall Mean	SD	Description	Intervention Priorities
1. Home	2.42	0.94	Low	No Intervention Plan Needed
2. Education	2.91	0.91	High	Need an Intervention Plan
3. Physical Body	3.03	0.95	High	Need an Intervention Plan
4. Sexuality	2.65	0.68	High	Need an Intervention Plan
5. Violence	2.32	0.91	Low	No Intervention Plan Needed
6. Drugs	2.02	0.72	Low	No Intervention Plan Needed
7. Depression	2.85	0.84	High	Need an Intervention Plan

3.2 Challenges encountered by the Learners that Impact their mental well-being

Table 9. Emergent themes and supporting statements of the challenges encountered by the learners that impact their mental well-being

Emergent Themes	Sample Significant Statements
Education	"I had a hard time completing projects and other performance tasks in school due to poverty."
	"I felt down every time my parents quarreled because of financial problems, which affected my studies."
Stress/Depression	"I felt depressed whenever my parents had family problems."
	"I had difficulty understanding math lessons, and my parents and siblings could not coach me."
Violence	"I have experienced sexual abuse from my father, which led me to think of committing suicide."
	"I was bullied inside the school because of my body physique, which killed my self-esteem.

Based on Table 9, the emergent themes from the challenges encountered by the learners that impact their mental well-being are education, stress/depression, and violence. This converges with the quantitative data that factors such as education, depression, and violence have impacted the well-being of the learners. It can be inferred that learners experienced these problems at home and school. For instance, factors such as family problems and financial constraints in education result in stress and depression that affect their mental well-being. Aligned with the study of Deng et al. (2022) that academic and family stress leads to depression among students, negatively affecting their academic performance and learning outcomes. This provides valuable information to parents, educators, and other stakeholders concerned about their children's education and performance. In a mile state, there is a connectedness between the learners' mental health and education. When the learners experience mental illness, they perform poorly in academics because they are affected by their mental health condition.

3.3 Impact of the Challenges Encountered to their Mental Well-being

Table 10. Emergent themes and supporting statements of the impact of the challenges encountered to their mental well-being

Emergent Themes	Sample Significant Statements
Mentally disturb	"Due to the challenges I have encountered, I become mentally disturbed, which leads me to insomnia or difficulty sleeping."
	"I had a hard time focusing on the lessons, and I was pressured on how to pass the subjects due to family and financial problems."
Low Academic Performance	"I obtained low academic grades because I was affected emotionally and mentally by the challenges I have encountered as a pupil."
Personal Growth	"I have lost my self-confidence to show up myself in different school activities because I have experienced being bullied by my classmates."

Based Table 10, emergent themes shown, such as mentally disturbed, low academic performance, and personal growth, are impacts of the challenges towards their mental well-being. The result shows that when learners experience various challenges in life, they will be affected emotionally, physically, and mentally. The data converge to quantitative data, which shows that education-related problems can cause mental problems and affect their academic performance, personal growth, and mental well-being. Connectedly, the study of Delfin et al. (2021) asserted that the new learning normal had affected Senior high school students physically, mentally, and

academically. Most challenges students have encountered are a lack of devices, slow internet connection, difficulty adjusting to the new normal, and time management with the number of tasks they have. Because of these, the students struggle to catch up with their academics, lose motivation, and endanger their mental well-being. Most of these students handle these struggles by having coping mechanisms, such as better time management, finding alternatives, and seeking support.

3.4 Learners' Coping Mechanism

Table 11. Emergent themes and supporting statements of the learners' coping mechanism

Emergent Themes	Sample Significant Statements
Prayer	"I always believed the power of prayer to combat the challenges along the way." "I strive to go to church and pray to relieve my stress and anxiety."
	"There is no better solution to overcoming challenges than a prayer."
Communication	"Communicating my problems with my close friends, siblings, and teachers helps me in overcoming my fears, stress, and anxiety."
	"I find it very effective because when you communicate your problems, it becomes lighter on my part." "

Table 11 presents the emergent themes for learners' coping mechanisms towards the challenges encountered in the school. The themes emerged, such as prayer and communication, as their coping mechanisms towards the challenges they have experienced. It further signifies that the respondent's way to combat these during the trying times is through prayers. It is believed that fostering a strong relationship with God will help you overcome various challenges in life. Moreover, the power of communication is not practiced today due to the presence of gadgets. Communication with their friends and families relieves the stress and anxieties brought on by the challenges in their lives as a student. The study of Deak and Mengga (2023) supported the notion that prayer and communication as coping can be more effective and beneficial in the healing process if it is done not only as a normal human reaction when anxious but in a relationship built consistently with God. Because when there is consistency and close connection, a strong sense of trust in God will grow solidly. It is this feeling of trust or faith in God that will create a sense of security and dispel the emergence of anxiety and other psychological problems that can lead to physical health problems. Christian psychology can encourage religious behavior, such as prayer, to help patients heal.

3.5 Learners' Insights on the Challenges

Table 12. Emergent themes and supporting statements of the learners' insights on the challenges

Emergent Themes	Sample Significant Statements
Positivity	"I have learned from the experience always to have positivity in every challenging situation."
	"I have learned that overcoming challenges depends on how we react to situations."
Stress Tolerance	"Having stress tolerance taught me to be patient in every challenging situation, whether at home or school."
	"During the difficult times in my life, I have learned to deal with stress and became emotionally mature."
Connection/Partnerships	The trying times of my life have taught me to foster strong connections with God and surrender all my worries and pains."
	"I have learned to have a strong connection with my family and friends who are always there through my ups and downs."

The table presented the emergent themes for the learners' insights based on the challenges encountered and the coping mechanisms employed by the learners. Data shows emergent themes such as positivity, stress tolerance, and connection or partnership as crucial skills to possess when facing life's challenges and adversities. It is very hard to combat mental illness. However, if you always uphold positivity, stress tolerance, and strong partnership with people you trust, you can surpass the challenges easily and confidently. We are into embracing resiliency in education, and if teachers are the ones to model those values and then radiate them to the learners, they will be able to combat every problem, and it will pave the way to living a life with healthy mental well-being.

4.0 Conclusion

Mental health issues continue to be a detrimental problem in the society. This creates huge problems, especially for those vulnerable individuals. They are the ones who cannot handle the anxiety and depression surrounded by many factors. For instance, the children. They are one of the most vulnerable members of the community when it comes to mental health issues. The study found that the learners have experienced mental health issues, specifically in education, physical body, sexuality, and depression. This should not be disregarded because several students committed suicide, claiming that their problems are related to education. We are just recovering from the pandemic, and learners suffer anxiety and depression from it; now that they are exposed to face-to-face classes, teachers must learn to understand them because they are the product of distance learning. It is anticipated that we need to bridge the gap in learning because of the pandemic. If the teachers disregard this, it can create depression, stress, and anxiety, which can lead to mental health problems. Physical body and sexuality factors are personal problems. Hence, communication and collaboration between teachers and parents should be prioritized to address issues related to their physical bodies. However, the school is challenged in assessing the learners who suffer from mental issues, an expert professional with appropriate assessment tools intended for them. What the school can provide is only a proactive measure through the guidance counselor's help through the guidance counseling program.

The study recommends that the school should have a mental health intervention program that focuses on the physical body, education, sexuality, and depression. The intervention will serve as a proactive measure to address learners who suffer from mental illness. Furthermore, the school should work collaboratively with the community to provide programs and projects for learners with mental health problems. Teachers and guidance counselors may work hand-in-hand to ensure the children's safety and healthy mental well-being. Moreover, SDO Cagayan de Oro City may continuously provide training and seminars to the school's designated guidance counselors to hone their craft in providing counseling services to the learners in school. Future researchers may conduct the same study but focus on the impact of the mental health intervention plan on the academic performance of the learners in all subject areas.

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7.0 Conflict of Interests

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Lived Experiences of University Students with Limited Internet Connectivity in Online Distance Learning

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Abstract. The pandemic brought by the coronavirus has had a notable impact on people's lives. In this regard, a new educational norm was pushed as a learning continuity plan that compelled Higher Educational Institutions (HEIs) to engage in Online Distance Learning (ODL). However, there were problems that university students experienced due to the sudden transition of the learning modality; specifically, students faced difficulty accessing the internet. Hence, the current study explored and described the lived experiences of university students with limited internet connectivity in the ODL through qualitative research using a descriptive phenomenological approach. An in-depth interview with the participants using a researcher-made semi-structured interview guide was utilized. The study revealed that most students with limited internet connectivity experienced problematic access to online classes and defined that a student with limited access to the internet struggled hard in adapting to the new normal education. The study also perceived looking for good space and time as the major coping strategy of the students to ease their difficulty in accessing the internet. The findings also implied that students hoped for appropriate interventions to aid their need for a stable internet connection to provide them a better chance of survival in the new normal education. The study recommended further improvement of the current system for online distance learning, instructors' attitudes toward students, and replication of the study in other educational institutions.

Keywords: Limited connectivity; COVID-19; Online distance learning; University students; Lived-experiences.

1.0 Introduction

The Coronavirus Disease 2019 caused the pandemic and drastically changed people's lives. Indeed, it is a phenomenon that has an adverse effect on society and our daily life. Even though all schools and community learning centers were closed for the physical conduct of lessons, this pandemic caused significant obstacles in delivering education not just in the Philippines but around the globe. Given the situation, higher educational institutions (HEIs) are being led to engage in online distance learning (ODL). Online distance learning is a kind of remote learning that involves both instructors and students and requires the use of the Internet and digital technologies. It is also a type of education wherein the students learn via online meetings, video presentations, video conferencing, or other audio/visual technology. It enables people to have an education without being physically present in a classroom setting.

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Students from states with a low level of digital preparedness may experience additional technological challenges. Recent findings conducted during the COVID-19 pandemic supported this theory. Basuony et al. (2020) said that just 13.9 percent of students in Egypt's capital city had internet connectivity problems. However, in rural places in Indonesia, more than two-thirds of students mentioned difficulties with unsteady internet, insufficient data subscription, and incompatible gadgets for learning are major concerns (Agung & Surtikanti, 2020). Access to appropriate technological devices, especially desktop or computer equipment, is another important factor in K-12 students' ability to adapt to online learning (Barbour et al., 2018). The majority of students, on the other hand, will most likely drop out because of low standards. Even in higher education, around 76 percent of students reported using incompatible devices for online learning, with only 15% using laptops and around 85% using smartphones (Agung & Surtikanti, 2020). Since they rely on their parents to provide access to appropriate learning devices, K-12 students are likely affected by this availability issue (Yan et al., 2021). The rapid development of electronic communication encourages technology-mediated involvement. Synchronous online learning is accomplished with electronic devices and an internet connection or without one. This learning style encourages both synchronous and asynchronous learning. The teaching approach can be either offline e-learning with the use of digital devices or online e-learning with the use of technology tools and an internet connection.

Education must go on because it was against the protocol for teachers and students to attend classes in person. The only practical option available at the moment is online learning, but each student in the school community needs to be prepared, which is a matter that requires serious consideration. Few, if any, educational institutions are fully equipped to offer online learning to all students instantly, even though some have tried to move forward and finish the semester online (Munoz, 2021). The Philippines is a developing country that lags far behind other nations, especially when technological adaptation is the topic. It is hard to convince students in the institution to engage in online learning because of the circumstances that it has. The version of online classes existed long before the abrupt discontinuation of traditional education caused by the coronavirus outbreak. Before this new jolt, online sessions have always served as a supplement to in-person education, where this takes place in a physical space. On the other hand, the coronavirus pandemic has forced education at all levels to shut down and go completely online learning for a prolonged period. Several recent research studies conducted in various countries about online distance learning show the advantages and disadvantages. Numerous research studies have addressed that online distance learning can be an effective learning modality. A beneficial effect is found when students' work is completed using information technology (Atadjanov, 2020). Online distance learning serves as the solution to the pandemic. Online distance learning was carried out to continue the academic learning and activities. Somehow, this learning mode benefits both the learners and the teachers.

As online learning becomes more popular, teachers and students with unstable internet connectivity face the greatest challenges in their teaching and learning process (Yeh & Tsai, 2022). If a student misses even two terms of study, their reading and numeracy skills decrease dramatically. Many students' academic futures are affected by a lack of internet connectivity in a world where quick, easy access to vital information is necessary to compete and survive. It also puts students in a position where they can no longer continue any education if they do not have access to the internet. Digital inequality arises from poor internet connectivity and negatively affects academic performance. Students are increasingly using online apps and simulations for educational purposes. They work with peers worldwide, do research utilizing massive data sets, and consult experts online. All of this was made feasible by high-speed internet access. It follows that a student who does not have internet access is clearly at a disadvantage, for they will not be able to participate in the thriving online learning environment.

Several investigations of students' experiences during online distance learning have been conducted in line with the phenomenon. According to Barrot et al. (2021), students perceived advantages, concerns, problems, and coping techniques when using online learning platforms. Many online students have little computer expertise when they begin their studies, but they quickly get immersed in utilizing technology for learning and communication. Mathew and Chung (2021) used a convenient sampling method to conduct a comparison study with 608 diploma and degree university students throughout Malaysia to examine viewpoints on ODL in the context of COVID-19. According to the results, some students have positive opinions about ODL deployment. On the other hand, others believe it should be discontinued in the future semester due to inadequate internet connectivity, budget constraints, and time management issues. When it comes to handling online classes, most Filipino students have serious internet connectivity issues in their localities, which prevents them from using the online synchronous

way of delivery (Pastor, 2020). Most Filipino students negatively perceive online learning and are unwilling to enroll in online programs due to inadequate connections (Baloran, 2020). Furthermore, limited learning areas and natural distractions at home make it difficult for students to create a conducive learning environment (Barrot et al., 2021).

There are several studies about lived experiences in online distance learning. However, the studies are general, and there is an apparent scarcity of evidence on students' experiences with limited internet connectivity. According to Belgica et al. (2021), students cited inadequate internet connectivity as one of the biggest issues with online distance learning. Afzal et al. (2023) concluded that the educational disparities and digital divide among students, which the implementation of online distance learning has intensified, are among the most glaring issues discovered. The results showed that in this type of setup, digital inequalities hindered students without stable internet connectivity from having equal access to learning opportunities. Moreover, Cullinan et al. (2021) suggested that Higher Education Institutions (HEIs) or relevant teaching staff should analyze the performance of students from communities with inadequate connectivity to assess differences in student engagement or performance compared to their better-connected classmates.

According to these findings, there are evident connections between students' struggles and challenges worldwide due to the major shift of classrooms to an online setting. Despite the minimal research on Filipino students' online learning experiences, it is evident that the problems that learners encounter contribute to the current disparities in the Philippine education system. If these issues are not properly addressed, they will continue to exist, affecting the quality of learning, education, and the quality of graduates to be produced, all of which will hurt the educational system. Kapasia et al. (2020) examined the impact of lockdowns on children's academic performance. Their findings showed major disruptions in students' learning due to the lockdown. Students also shared some of the challenges they faced when studying online. Students who are marginalized and from remote areas often experience increased levels of anxiety, depression, poor Internet connectivity, and a hostile home learning environment. The effects of the COVID-19 pandemic on online learning were investigated in Saudi Arabia. Barriers to online learning during the COVID-19 pandemic included time management, technophobia, communication, student assessment, technological tool use, online experience, and anxiety or stress associated with the pandemic (Rajab et al., 2020).

Participation barriers are commonly observed in group work activities. Since they are expected to be more adept at technology and knowledgeable than ever in addition to their regular academic duties, many academic staff members experience difficulties in the online platform. In this context, learning management systems (LMS) like Canvas, Edmodo, Schoology, Google Classroom, and the like are commonly used as online distance learning tools, as are video conferencing platforms like Zoom, Skype, and WebEx. According to Clark and Mayer (2016), a disorganized and hurried shift to online distance learning with little preparation, insufficient bandwidth, and little training will lead to a poor user experience in learning activities. Another study by Copeland et al. (2021) and Fawaz and Itani (2021) examined the effects of COVID-19 on college students' mental health and coping strategies. Student's behavioral and emotional functioning was affected by isolation, uncertainty, and the effects of the economy and health, particularly concerning attention and externalizing issues (i.e., mood and wellness behavior) (Copeland et al., 2021). Concerns regarding learning and assessment methods, an excessive workload, technological difficulties, and confinement were voiced by students (Fawaz et al., 2021).

Furthermore, pedagogical strategies could alleviate some students' concerns about online distance learning and benefit them. Ali (2020) proposes that students who use online distance learning during this pandemic feel compelled to study remotely because they lack suitable facilities and infrastructure at home. Students in this study have firsthand knowledge of online distance learning, and they are in the condition of the COVID-19 pandemic. The results of the investigation from students' experiences with online distance learning are recognized to be recommendations for lecturers and institutions in executing these activities to keep them running smoothly and optimally. Furthermore, numerous studies have already been conducted to explore students' lived experiences in online distance learning. However, exploring the experiences of online distance learning students with limited internet connectivity was not given focus. Hence, the researchers conducted this study to address and fill that gap. Hence, the researchers conducted the study entitled Lived Experiences of University Students who Have Limited Internet Connectivity in Online Distance Learning to deeply investigate the issues in the experiences of students,

which will provide reliable insights and recommendations to authorities or any concerned individuals about the challenges encountered and coping strategies developed by the students as well as the interventions they proposed to ease their struggle as they engaged in ODL amid Covid-19 pandemic.

As a result, this study explored the lived experiences of university students with limited internet connectivity and aims to answer the following questions: (1) What are the challenges experienced by university students who have limited internet connectivity in online distance learning?, (2) How do they cope with these challenges?, (3) What intervention may be proposed to address the challenges experienced by students who have limited internet connectivity in online distance learning? This study will help university administrators and staff understand how students cope with new learning modes and the challenges they face. The insights gained will guide decision-making and policy development. Instructors will benefit by identifying student issues in online learning and adapting teaching strategies accordingly. The study will primarily benefit students by addressing their real challenges and raising awareness among administrators and instructors. Additionally, future researchers will gain valuable information and insights for related studies.

This study is based on the communication model of Shannon-Weaver, which aims to improve communication between the sender and receiver, similar to students and teachers in online distance learning. The model explains how messages can be lost or distorted. According to Drew (2023), citing Shannon (1948), the main issue in communication is ensuring a message is accurately received as intended. The model highlights 'noise' as a disruptor, with two types: internal (errors in sending or receiving) and external (outside interferences). The goal is to identify and reduce noise to improve message quality. Examples of external noise include a poorly tuned radio, lost mail, interrupted broadcasts, or failed internet connections. While acknowledging the study's design, the Shannon-Weaver model of communication theory was pivotal since it provided a lens through which the researcher analyzed that limited internet connectivity is an internal noise in student and instructor communication in online distance learning. Furthermore, Shannon-Weaver's idea provided a theoretical basis within which the researchers could describe the experiences of university students with limited internet connectivity, wherein their difficulty in accessing a stable internet connection served as an internal noise or a barrier to accessing accurate information from the online learning platforms they were using.

2.0 Methodology

2.1 Research Design

This study was qualitative research. The researchers investigated the university students' lived experiences in online distance learning. The basic questions of social phenomena, such as how individuals perceive certain parts of their lives, behave and function, and how their interactions with others contribute to social connections, are understood through qualitative research (Teherani et al., 2015). Phenomenological qualitative research methodology was employed because the study focused on one's experience. This allowed the researchers to describe and evaluate the participants' lived experiences from their perspectives, which allowed them to look into the study's underlying problem. Moreover, this study utilized the descriptive phenomenological research design to describe the experience of university students with limited internet connectivity. Christensen and Barr (2017) stated that descriptive phenomenology is widely used in social science research to describe and explore people's lived experiences. A descriptive phenomenological research design was thus employed for this qualitative investigation.

2.2 Research Locale

This research was carried out at a University in Eastern Visayas located on Havana Street, San Miguel Tanauan, Leyte. The university wanted to be the finest in the state in terms of technological and professional education. It offers a wide range of academic degree programs in four departments, with specializations in business, engineering, education, and technology. That university strived to develop strong technological and professionally qualified personnel with the qualities necessary for long-term development.

2.3 Research Participants

The study participants were University students with limited internet connectivity across the four departments of the university who were officially enrolled during the second semester of SY 2021-2022. The total population of the study was 2,737 based on the master list from the responses of the university students with limited internet

connectivity. The sample size is 20 participants. According to Moser and Korstjens (2017), the sweet spot sample size for many qualitative research studies is 15 to 20 homogenous interview participants. The researchers also concluded that 20 participants were enough since the university offers 20 fields of specialization across the four departments with different courses. Random sampling via fishbowl was used to identify the year level and, after that, the study participants to fairly choose the participants from the population.

2.4 Research Instrument

The researchers understand the role of the researcher as the research instrument in qualitative research. As Lofland et al. (2022) put it, the researcher is the key instrument through which qualitative research is conducted through interviews. Qualitative interviews are sometimes called intensive or in-depth interviews. These interviews are considered semi-structured because the researcher has a particular topic for the participant. The questions on the instrument are open-ended and may not be asked in the same way or order to each participant. The researchers in the study conducted an in-depth interview to explore the authentic lived experiences of the participants. In an in-depth interview, the researchers usually develop a guide in advance that they can refer to during the interview or memorize when the interview takes place. An interview guide is a memory aid containing interview items the interviewer plans to cover (Magnusson & Marecek, 2015). It is a list of topics or questions that the interviewer hopes to cover during an interview. It also facilitates the conduct of conversation.

Moreover, the specified format of an interview guide might depend on personal style, experience, and level of comfort as an interviewer or with your topic. Hence, the researchers created a semi-structured interview guide to ensure that every topic is covered to gather the information necessary for the study. A semi-structured interview guide was designed to study the lived experiences of University Students with limited internet connectivity in online distance learning. It was pilot-tested on two students outside of the university and was examined by a panel of experts. Suggestions and comments are taken into account for the validity of the research instrument. This semi-structured interview guide is composed of two parts. Part 1 is the introductory, wherein the researchers introduce themselves, the title, and the purpose of the study. Moreover, the researcher discussed the flow of the interview. Part 2 is the interview proper, wherein the interviewer asks several questions that fall under these objectives: (1) introductory part; (2) What are the challenges experienced by university students who have limited internet connectivity in online distance learning; (3) How do they cope with these challenges; (4) What intervention may be proposed to address the challenges experienced by students who have limited internet connectivity in online distance learning; (5) What is the meaning of having limited internet connectivity on online distance learning. Each main objective is clustered with different sub-questions, such as objective 1 clustered with 4 questions, objectives 2 and 3 clustered with 3 questions, and objectives 4 and 5 clustered with 2 questions. To determine whether the questions effectively addressed the study's objectives, the comprehensive semi-structured interview guide was pilot-tested with three students outside of the university and approved by a panel of experts. Before the interview guide was utilized for the real interviews, it was revised based on the expert's informed opinion and the findings of the pilot test.

2.5 Data Gathering Procedure

In gathering the data, the course of action was done in line with the accomplishment of the data needed for the study. The researchers submitted a letter to the Department Head and Campus Director seeking approval of the research study. Upon approval of the study, the researchers applied for the confidentiality and non-disclosure agreement papers in the admin office of the Main Campus for the list of university students with limited internet connectivity enrolled in the satellite campus. Moreover, the researcher selected students based on the criteria and personally asked for consent to be the participants. The process was done politely and with the students' willingness. Before giving consent to the selected participants, the researchers thoroughly explained the data-gathering procedure and confidentiality. And voluntary participation. Upon approval of the request, the interview was conducted. The interview was held in a private area to ensure confidentiality. It was done via face-to-face interviews, and the responses were audio recorded. An interview guide is a memory aid that contains interview items that the interviewer designed and planned, according to Magnusson and Marecek (2015). The researchers created a semi-structured interview guide to ensure that every topic was covered and to gather the information necessary for the study. The instrument was verified, revised, and modified. After that, the interview of twenty participants followed.

2.6 Data Analysis

All the responses were considered and validated in alignment with the research problem during data analysis. The recorded interviews were transcribed, and the written texts were meticulously reviewed to gather the necessary data based on the participants' perspectives. The data were analyzed qualitatively using Colaizzi's descriptive phenomenological method, as detailed by Morrow et al. (2015). Colaizzi's method involves seven steps in qualitative data analysis. The first step is familiarization, where the researchers thoroughly read and reread the interview transcripts of all participants. The second step is identifying significant statements, where the researcher identifies statements in the transcripts related to the phenomenon under investigation. In the third step, the researchers extracted the meanings of the significant statements relevant to the phenomenon. Researchers ensured that preconceptions were set aside through reflexive "bracketing" to stay true to the participants' experiences. The fourth step involves clustering themes, where the researcher groups the identified meanings into common themes across all interviews. In the fifth step, the researcher composes a detailed and comprehensive description of the phenomenon, incorporating all the themes identified in the previous step. The sixth step involves distilling the comprehensive description into a concise statement that captures only the essential aspects of the phenomenon's structure. Finally, the seventh step is verifying the fundamental structure, where the researchers return to the participants to verify whether the condensed statement accurately represents their experiences of the phenomenon, a process known as member-checking, which is a crucial aspect of qualitative research.

2.7 Ethical Consideration

Before beginning the data collection process, the researchers ensured that all preliminary protocols were strictly followed and implemented. The study's conduct was confirmed in several key areas. Participant selection was based on random sampling, as detailed in the sampling procedure section. Participants were informed about the study's purpose and benefits. The research procedures were designed to avoid any activities that might cause psychological or emotional harm to the participants and were solely for research purposes as a degree requirement. In compliance with RA 10173, the Data Privacy Act of 2021, all personal and sensitive information collected through the questionnaire was used exclusively for the study. The principles of participant anonymity and response confidentiality were upheld throughout the study. No financial involvement or compensation was provided to the participants, as it was conducted for educational purposes, and participation was entirely voluntary without incentives. Participation was voluntary, without undue influence or coercion, and participants were not forced or threatened to be part of the study. All participation was done according to their free will and rights.

3.0 Results and Discussion

3.1 Challenges of University Students Who Have Limited Internet Connectivity During Online Distance Learning

This study explored and described university students' challenges with limited internet connectivity in online distance learning. Based on the transcripts of the interviews, data revealed several challenges for university students with limited internet connectivity in online distance learning. Eight (8) emergent themes were captured from the first-person perspectives of participants.

Problematic Access to Online Class Platforms

The first challenge university students encounter is maintaining a stable internet connection in online distance learning. Tariq and Fami (2020) similarly emphasized that a reliable internet connection is essential for attending online classes. Likewise, a study by Al-Amin et al. (2021) highlighted that a stable internet connection is an urgent necessity for students. According to them:

"I have mentioned earlier we are, sometimes our connectivity is not good, and then it affects my learning, my learning because during our class sometimes our internet is not that good." (P15)
" While the disadvantages will be, students will not learn well from class because they cannot focus on the topic if there is a weak signal because the voice is not clear." (P11)

Another participant stressed that difficulty in internet connectivity is one of the hindrances that disable students from learning well because they keep missing online meetings.

"Difficult for me, my experience is difficult, why? Because it is also one of the hindrances to learning for students because instead of that you will learn, you get left out of the class." (P2)

Also, a participant emphasized that the unstable internet connection is the major reason that there are instances he is absent during synchronous classes scheduled by his/her instructor. The participant said,

"So, with this, there are instances that I am not able to attend classes because the internet connectivity does not warrant me." (P3)

Limited Acquisition of Learning

Another distinct theme identified in the data analysis is the limited learning experienced by university students with poor internet connectivity. While half of the students in Oducado and Estoque's (2021) study demonstrated acceptable or fair academic performance, it is important to note that over one-third of the students reported poor academic outcomes. A study among undergraduate nursing students in the Philippines revealed that their academic performance declined as stress levels increased in 34 students (Llego & Corpus, 2018). This similar challenge was experienced by university students who had limited internet connectivity. According to the participants:

"The disadvantage is you lack knowledge from the lesson." (P17)
"For example, the effectiveness towards students is not enough, like not sufficient when it comes to online learning." (P16)

Also, the participants stated that they acquired limited learning due to their instructors' lack of discussion and resources. They uttered:

"There is limited learning on distance modality. What is likely happening now is self-learning. No further explanation from the teachers as they will give you a module or study guide like there is a limitation in learning." (P5)
"The new system for learning is difficult; there is no reliable way to learn securely for us because actually, we do not have a discussion even in Google Meet or virtual." (P1)

Another participant emphasized that they acquire inadequate learning, especially since their course requires the actual or hands-on performance of the activities, which they could not perform online due to the lack of materials. He said:

"Our learning is insufficient in terms of our program like tapings of wire because we do not handle actual equipment on hand." (P4)

Furthermore, the limited acquisition of knowledge in online distance learning led to poor academic performance, according to a participant:

"This also becomes the root cause of getting low grades because of the failure to submit on time." (P8)

Lack of Communication between Teacher and Student

Another challenge from the participants' data is the lack of communication between teacher and learner. Both teachers and students share equal responsibility for achieving better academic performance. When learners encounter difficulties in understanding concepts, they need to seek clarification from the instructor (Bangert et al., 2004). However, a news article by Panday (2020) noted that students struggled with maintaining attention during online classes and reported that they did not fully grasp the lessons through this new learning platform. The participants said:

"One of the disadvantages is lack of communication between teachers and students because there is a time that they have conflicts in time, which is why their concerns were not entertained right away." (P1)

Furthermore, a participant uttered that one of the challenges he experienced was:

"The lack of attention that our instructors are giving to us." (P14)

Other participants mentioned that the lessons that the instructors provide to the students are inadequately discussed, which made them resort to using online resources. However, they still emphasized that they need their instructors' insights on the activities that they do.

"Sometimes the teacher's discussion is not clear, and you do not know the exact idea and point of the teacher's discussion." (P9)
"Sometimes the teacher is not teaching, but we use Google, yet it is not advisable because there is right and wrong information, you are not sure if the teacher or instructor is telling the truth." (P10)

Scarcity of Digital Resources
The scarcity of digital resources is another important theme that the participants described as one of the challenges they experienced during ODL. Digital resources are a hypercritical need in online learning. These mobile devices will be used to access various online learning systems that the study of Abidah et al. (2020) discussed. They also mentioned that several platforms support online learning for free, are user-friendly, and can be accessed via smartphones. These include various discussion rooms like Google Classroom, WhatsApp, Kelas Cerdas, Zenius, Quipper, and Microsoft. In this regard, a participant in this study claimed that he/ she lacks digital devices to be used in online learning. The participant stated that:

"Also, I lack resources which I can use in this online distance learning." (P3)

Other participants revealed that there are tasks to be done, such as making PowerPoint presentations- that are difficult to create just by using a smartphone. The participant said:

"Then the difficulty also is when making PowerPoint that you do not have a laptop you have only a phone which is uncomfortable then there are instances that during the class you will be disconnected." (P13)

Moreover, another participant experienced that there are applications used as learning platforms in the ODL that cannot be installed or do not function on smartphones and are only accessible using laptops.

"Another disadvantage also is the internet connection and the resources that we students have; for example, there is an app that is not functioning on a cellphone, so we will look for another device like a laptop, which is another problem." (P19)

Lack of Knowledge in Utilizing Digital Tools
An equally important theme that emerged in the data analysis from the transcripts of the participants' interviews is the lack of knowledge in utilizing digital tools. Along with the sudden changes that occurred because of the pandemic and the changes in the education system, online learning involves using digital devices. However, insufficient literacy in operating these tools became a challenge for the participants of this study. The study by Agung and Surtikanti (2020) stated that the difficulties of online classes are grappling with a lack of digital literacy. According to the participants,

"Like I am not computer literate, and I do not know how to access new apps. That is why there are instances that I could not submit." (P5)
"Like at first, it is difficult because I do not know how to use an app like Gmail. I feel strange with that." (P7)

Impedes Self-regulated Learning
Self-regulated learning (SRL) is defined as a set of instructional strategies undertaken to learn, as mentioned in the study of Mammadov and Schroeder (2023). This term arose from participants' responses and became an emergent theme in this study. Self-regulated learning is a challenge experienced by university students with limited internet connectivity in ODL. According to them, learning in their own way is difficult, and no one is there to ask if they understand the lessons correctly. The participants stated:

"I think it becomes difficult for me when there are tasks because I cannot immediately ask from anyone." (P7)

Another participant argues that he/she has no choice but to learn on his/her own since the instructors do not have enough discussion of the lesson but are given only study guides instead. The participant stated:

"Like we are doing self-learning that is happening with no further explanation from the teacher as they will just only give a study guide." (P5)

However, based on another perspective, some participants regarded self-regulated learning as a positive description. These participants view self-learning as a sign of independence. They said:

"Online distance learning makes me independent in a way that I have to rely on myself in answering my activities." (P3)
"Having online learning means that you are doing the best thing to learn on your own, you are being independent." (P9)

Limited Teacher Accommodation
Another peculiar theme developed in the study was limited teacher accommodation, which, according to the participants, the guidance or instructions of some instructors were inadequate to make them learn what they needed to know. However, according to Wang et al. (2020), educators also faced challenges in navigating the system and in conducting online learning, thus making it difficult for students. The participants voiced out;

"If we ask questions from our instructors, our instructor will tell us to just do research, instead of explaining it." (P19)
"They can contribute if they will understand the student; that is how a teacher can help." (P20)

Some participants also expressed that they have difficulties dealing with instructors who are strict when it comes to late submission and instructors who give overloaded assignments. They said;

"Other teachers do not like late submission; they deduct points right away." (P2)
"There are many demanding instructors who give only one example but give one hundred item assignments." (P10)

Difficulty in Time Management
Additionally, poor time management emerged as a significant challenge in online distance learning (ODL) and was identified as a key theme in the study. Issues like improper time allocation or last-minute exam cramming contribute to stress and poor academic performance (Mukwevho, 2018). Another study by Seo (2012) revealed that 30% to 60% of undergraduate students frequently delay their academic responsibilities. In online distance learning platforms, there is still similar difficulty that university students have experienced. According to the participant, it is hard to manage his time doing his/her tasks. The participant stated,

"I have insufficient time; I lack in managing my time, and I do not know how I will do it." (P8)

Another participant shared that because of her poor time management, she sometimes does not attend classes and submits her activities late;

"Sometimes I did not attend my classes on time, I did not pass my activities on time." (P16)

Meanwhile, another participant had trouble managing her tasks at school and work since she had a part-time job. She stated,

"There are usually morning classes, and then I have work at 8:30-5:00 as a tutor, and then if I cannot attend my 7 Am class, I will automatically be deducted." (P13)

3.2 University Student's Meaning of Being a Student Who Has Limited Internet Connectivity in Online Distance Learning
University students have different perspectives on how they define being a student with limited internet access in online distance learning. The participants expressed their insights into how they understood the statement mentioned above, which were captured into themes based on the repetitive responses that were read during the analysis of the interview transcripts. The four (4) emergent themes were individually discussed below.

A Student who Struggles

The abrupt shift from traditional on-campus classes to remote learning has significantly disadvantaged students. One key theme that emerged from university students' experiences is students who struggle with online distance learning (ODL). This aligns with the findings of Rotas and Cahapay (2020), who noted that poor network connectivity is prevalent in developing countries with underdeveloped telecommunications and ICT infrastructure. The participants in this study voiced out that having a limited internet connection is a hassle, and the new normal mode of learning is difficult to cope with. According to them, being a student with limited internet connectivity is a real struggle.

"Online distance learning is such a hassle because limited internet connection is having a hard time in coping with the new normal of studying (P14)
"We students struggle hard." (P15)

Meanwhile, the participant's responses suggest that being in the ODL is difficult and affects her academic performance because of the weak internet connection. He uttered that:
"It is hard because it affects my performance in school, and it is hard for me to catch up in class." (P11)

Challenge to Conquer

Given the massive stress and problems that recent studies have shown (e.g., Rotas & Cahapay, 2020; Bozkurt & Sharma, 2020; Baticulon et al., 2021), students continue to discover silver linings in the hurdles they face in the practice of remote learning. University Students take the hindrance of having limited internet connectivity on the ODL as a motivation to reach their goals. According to the participants, they need to be responsible students who hold on to their dreams and conquer these challenges no matter what challenges arrive. They said;

"As a student, you have to become responsible because even what challenges may come, if you have dreams, you will grab the opportunity even if it is hard because it is your dream to be successful." (P18)
"As a student, you have to strive hard to achieve your goal, which is to finish." (P4)

A participant also stated that ODL was difficult at first, but along the way, she felt excited while adjusting to the new normal mode of education. The participant also stated that,

"At first it is not that easy, and you have to adjust, but along the way, the process becomes like exciting." (P7)

Emotional Distress

The participants reported that limited internet connectivity in online distance learning (ODL) can lead to an emotional crisis. Similarly, Copeland et al. (2021) found that factors such as isolation, economic and health impacts, and uncertainty significantly affected students' behavioral and emotional functioning, particularly regarding attention and externalizing issues (e.g., mood and wellness behaviors). Following the same process of data analysis, emotional distress was a theme that arose from the ideas that were mentioned during the interview with the participants. According to the participant, she was stressed because the ODL platform had many demands and struggles to overcome. They said,

"Stressful. If you are a student in a limited face-to-face, you will be stressed because there are a lot of demands and struggles." (P10)

Another participant claimed that having limited internet in ODL causes many students to suffer from anxiety attacks,

"Most of my classmates got anxiety." (P1)

Moreover, a participant mentioned that he feels alone in ODL. He described ODL as a room with only one door where students are kept inside without doing anything. The participant expressed;

"You are like placed in a room that only has one door; you have no choice but to stay there." (P19)

Blessing in Disguise

According to some of the participants' responses, they view online distance learning as a blessing in disguise that made them continue their education despite the pandemic. Hence, this theme emerged in this study. Despite the struggles of the unprecedented transition of the mode of education, some students view the new normal learning modality from a positive perspective. Similarly, related literature from the United Nations (2020) stated that students who view education as a worldwide common good strive to survive and display positive actions, attitudes, and outlooks to overcome the daily challenges of distance learning. The participants stated that;

"For me, it was like a blessing or miracle because still we can continue our study." (P7)
"It was like a life for me to pursue my goals." (P1)

3.3 Coping Mechanism of University Students with Limited Internet Connectivity in Online Distance Learning

If problems exist during online distance learning, university students have their coping strategies to resolve the issues of having limited internet connectivity. Their coping strategies are summarized in ten (10) themes.

Looking for Good Space and Time

One of the most repeated difficulties experienced by students in remote learning is unstable internet connectivity in different geographic locations (Rotas & Cahapay, 2020). One of the themes captured is looking for a good space and time to cope with the challenges faced by university students in remote areas and those with limited internet connectivity in the ODL. Some of the utterances are specified;

"I go to the town proper to have stable internet." (P4)
"I answer my task immediately, then during the night I go to the place where the internet is more stable then, I send it there." (P5)
"I look for a better connection either I go upstairs or go outside." (P11)
"I go to a place where there is a better connection, or I connect to a peso Wi-Fi to get a stronger signal." (P17)

Doing Learning Tasks Ahead

Completing tasks can be challenging and overwhelming, but this is where time management skills are essential. These skills enable students to plan and prioritize their upcoming assignments (Cyril, 2015). University students with limited internet connectivity in the ODL did the same practice to avoid cramming during class discussions. The participants said:

"If there are vacant days, I use that time to work on my activities in advance while the deadline is still far so that when the deadline comes, you will just need to pass it." (P6)
"I need to find a stable connection so that I can pass, or I find time with better connection, or after the teacher gives the task, I work on it immediately so I will not be late." (P7)

Moreover, another participant uttered that due to limited internet and unstable connectivity, he/she did her task early. The participant said:

"I do not get late; I pass ahead of time, and I spend all my time until I am done so I will not be late." (P10)

Seeking Support from Peers

The study conducted in a higher education setting showed that group students achieved a higher grade point average than those working individually in a control group (Gatfield, 1999). Similarly, Jurs and Špehte (2021) highlighted the importance of providing quality peer support in distance learning, as students have fewer opportunities to seek clarification from a tutor due to geographical distance. Another strategy university students employ is seeking peer support to overcome the challenges they experience as students with limited internet connectivity in ODL. According to some participants:

"I chat with one of my classmates and ask for updates." (P8)
"Overcome these challenges of having limited internet connectivity through asking my classmates about what our instructors discuss and if they have recorded the discussion." (P11)

"I asked my other classmates if they could give me screenshots of the lessons that I have missed." (P15)

Practicing Time Management

Effective time management results in better outcomes and increased efficiency. Individuals who set goals, establish priorities, and receive time management training are generally more inclined to plan effectively (Hellsten, 2009). As university students who have limited internet connectivity, they practice time management in doing their school tasks as a coping mechanism in the ODL. According to the participants:

"I overcome those challenges by managing my time and having a calm mind because it will lead us to be more attentive to what we are going to do even though there is limited internet connectivity in online distance learning." (P8)
"We need time management like you must be attentive to your class schedule and time and then what day you do not have class so that you will not waste your load for one day." (P12)
"You have to adjust yourself on time management." (P13)
"If there is a quiz that only takes five minutes to answer, I am going to answer it first before the other quizzes take a long time to answer." (P14)

Moreover, other participants practiced their time management by doing their tasks in the middle of the night. The participants uttered:

"I wake up at midnight just for me to submit activities on time." (P3)
"One time, I woke up at 4 am to pass my task, especially when I only depended on my cellular data connection." (P7)

Accepting Responsibility

Students who view learning as a personal responsibility tend to tackle challenging problems and demonstrate a strong eagerness to learn, even when faced with potential difficulties (Ayyildiz & Tarhan, 2015). Another coping strategy university students use is accepting the responsibility of being a learner with limited internet connectivity despite the difficulties. The participants said:

"As a student, I need to adjust, not that the teacher will adjust for me, so I find a way like a peso WIFI. For example, we have midterm exams, and then there is activity, so I connect on the peso WIFI to have a stable internet to avoid interruption." (P4)
"It takes time, but I do it because I want to learn." (P5)
"It is hard, but I do it also. It is my obligation as a student." (P7)
"I accept the circumstances because I do not have a choice but to take the risk." (P8)

Approaching Teachers

Achieving better academic performance requires equal responsibility from both teachers and students. When learners have difficulty comprehending concepts, they need to seek clarification from the instructor (Bangert et al., 2004). University students with limited internet connectivity acknowledge that communication and collaboration between teachers and students play a vital role in coping with the situation. They uttered:

"I asked my teachers about the other choices for me to complete the missing activities." (P7)
"I chat or message my teacher like on our drawing because I did not know that there was an exam, I just know it after." (P10)
"If there is no signal, I message my teacher, and I ask my classmates for screenshots of the lesson to catch up." (P18)

Seeking Social Support

Various studies have shown that the perceived availability of such support contributes to a stress-free, positive, and peaceful life for individuals (Vasuki et al., 2022). Another coping strategy university students use is seeking social support to overcome their challenges during the ODL. The participants:

"Through the support of my family, friends, loved ones and one thing is time for myself." (P7)
"Family and friends will truly help most especially at this time." (P5)

Moreover, another participant stated that he spent time talking with friends as a coping mechanism. The participant said:

"…… sharing and talking with friends." (P2)

Being Thrifty

In the study by Muda and Yee (2019), 44 out of 81 participants (54.3%) identified financial constraints as the most significant challenge they faced during online distance learning (ODL). University students with limited internet connectivity in ODL also face financial problems, and their coping mechanism is to practice being thrifty. They said;

"If there is still no class, I do not buy a load, and I message on our group chat to update me if there were classes so that my load will not be wasted." (P1)
"…… be attentive to your class schedule so your load will not be wasted in a day." (P13)

Developing Autonomy

In online distance learning, students often become self-directed learners who take the initiative in making decisions about their tasks, with or without the teacher's involvement (Sze-yeng & Hussain, 2010). Another coping strategy that university students use is to develop autonomy while having the ODL. The participants uttered:
"You must be independent in a way that all of you can contribute." (P20)
"… gather relevant information, and it is somewhat like you have to learn on your own like a self-learning also." (P15)

Seeking Informational Sources

Henaku's (2020) study confirms that insufficient learning resources are among the challenges students encounter. University students with limited internet connectivity in the ODL seek information online and offline sources to cope with the difficulty. The participants said:

"With the help of the internet, particularly in Google, it helps me in browsing the given modules, and most importantly, I gained some knowledge." (P1)
"We buy books because, in accounting, we need books." (P20)

3.4 Interventions Proposed to Address the Challenges Experienced by Students With Limited Internet Connectivity in Online Distance Learning

Based on the participants' responses in the study, different viable cues were identified. Following the same data analysis procedure, these viable cues were seen as inputs to positive interventions that will aid the crying need of university students with limited internet connectivity in the ODL. Six emergent responses were captured in the first theme of the participant perspectives.

Household Internet Access

Reviewed literature in the study of Azcarraga and Pena (2019) showed evidence that the Philippines is suffering from very slow internet connectivity. As suggested, an upgraded router helps with a faster internet connection and is a must for better delivery of teaching in Online Distance Learning. University students with limited internet connectivity suggested that better household internet access would greatly help solve their problem with assistance, Wi-Fi, or booster. The participants said:

"It will help if you have a stable internet connection that is unlimited, cannot be interrupted, and does not have sudden interruption and problems with the site. It is all I want for me or even in our house to have our Internet." (P1)
"They should give additional financial support to at least every barangay who should give WIFI for those in need." (P6)
"WIFI with booster" Participant 5 line 965
"Having WIFI is good because it can help online classes and it has a good signal that can let you attend classes." (P18)
"We need unlimited internet to have a good flow in your studies." (P20)
"School or maybe the government should provide WIFI for students to have internet connectivity." (P11)

Provision of Public Learning Centers with Stable Internet Connectivity

The university students stressed that the provision of public learning centers with stable internet connectivity will be of great help in aiding their needs in this new mode of learning, which has been emphasized in (Asio et al., 2021) the provision of pocket Wi-fi, Wi-Fi hotspots to certain locations where students can avail it for free in the

community like a plaza, barangay halls, and Barangay Police outposts, especially in far-flung areas. The participants outlined that a learning space will help them have a better learning environment and technological devices such as routers would greatly help enhance their internet connectivity problem. The participants uttered,

"I think the government should install or provide public WIFI or even give the students a free router." (P3)
"Barangay WIFI so far is weak; it is not that stable because many are connected." (P4)
"….. I guess booster or connectivity, booster free wi-fi." (P13)
"Free wi-fi in every barangay could be also." (P17)
"To have a project from the government or in our community, or even from SK youths to have a function hall with one WIFI there, then it is open anytime for all of us. That is the problem." (P1)

Alternative Learning Modality

Institutions have suspended face-to-face classes and shifted to alternative learning delivery, resulting in the abrupt implementation of emergency remote teaching (Ferri & Guzzo, 2020). According to the university students, another positive intervention that can be done is the alternative learning modality, which is modular learning, since they have limited internet connectivity in the ODL. The participants said:

"To include a modular type of learning so that students like me who have difficulty with the internet can still be able to learn conveniently." (P3)
"Should have face to face because it is okay to have online class not on the major subjects and major subjects should be face to face." (P9)
"Maybe the modular can help." (P13)
"So far, we have modular, so it is okay even without the internet." (P19)
"Globe telecommunication and PLDT or government and then the sim cards that we used like TNT, smart connection and then globe connection would improve every province, every barangay or every remote area and would have internet." (P13)

Financial Assistance

Financial issues have long been a concern for society, not just during the pandemic. Budgeting problems are particularly challenging, especially for students from marginalized families (Norazlan & Al-Majdhoub, 2020). Learners from low-income and disadvantaged backgrounds are especially vulnerable during online learning, as they may lack access to high-speed internet and necessary technical equipment. This exacerbates the disparity between privileged and underprivileged students (Hussin et al., 2023). Some of the university students suggested that at this time of the pandemic, they need financial assistance to support their studies in ODL. They said:

" ……we also need financial support." (P5)
"Ahm, financial assistance." (P11)

Moreover, a participant highlighted that officials from barangay can also support students. The participant said:

"I think the barangay officials can help to assist the high school's students or college students to have an everyday load." (P6)

Similarly, participants said that they needed financial assistance for the load. The participants said,

"I guess giving data loads will do." (P2)
"Free internet or freeload even if anything that will reach class." (P4)
"I think the expenses load internet data connection." (P9)

Availability of Peer Tutors and Mentors

Communication between students and between students and instructors was a significant issue. The lack of face-to-face interaction between students and instructors led to negative perceptions among many students. They felt unsure of their guidance when instructor feedback was delayed (Howland et al., 2002). The power availability of peer tutors and mentors is one of the assistances that the university students with limited internet connectivity need during the ODL. The participant said:

"More teaching or more time for the instructor and not teaching videos." (P10)

Another participant stated that besides financial assistance, he also needed physical assistance. The participant added:

"Financial assistance, physical assistance, and social interaction with others.] (P7)

Provision of Digital Learning Tools

Students from low-income families and disadvantaged groups are particularly likely to struggle with online learning due to the lack of access to high-speed internet and necessary technical devices. This exacerbates the disparity between privileged and underprivileged learners. To support online learning and address this gap, government and educational institutions should implement policies to provide all students with free internet access and digital devices (Kumar et al., 2021). University students also addressed the fact that providing digital learning tools will help them be fully equipped and lessen their burden. They uttered:

"Giving flash drives then things that will be used in school for them not to worry and they will lose their burden." (P7)
"Give also gadgets to other students." (P2)

4.0 Conclusion

The study explored the lived experiences of university students with limited internet connectivity. The conclusion drawn from this finding is that students with limited internet have problematic access to online platforms, which hurts their academic performance, resulting in insufficient learning from lessons with inadequate discussion and instructions. Moreover, to overcome the challenges and difficulties perceived in this study, several varied coping strategies provided a better chance of overcoming and surviving the challenges that university students experienced. The findings showed that university students looked for good space and time to get reliable internet access while also creating a conducive learning environment where they could complete their tasks ahead of time, keeping them up to date with activity submissions and being notified about the online platforms they were using. Hence, the participants hoped that the government and the school, as capable institutions, would provide the necessary interventions to help them meet their need for stable internet connectivity, which is the most important resource they require to adapt to the online world, as the findings also revealed that being a student with limited internet connectivity is a real struggle.

5.0 Contributions of Authors

Christian S. Francisco led the development of the study, conducted the interviews, and revised the paper into a publishable format. Mary Ann C. Madalina was responsible for crafting the review of related literature, conducting the study, and formulating the theoretical framework. James R. Pedrera suggested the research design and methodology. All authors collaborated to finalize the study, reviewing, revising, approving, and finalizing the work.

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Utilization of Web-based Laboratory in Expressing Chemical Concentrations

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Abstract. This research was carried out to evaluate students' attitudes toward learning and doing Chemistry activities using web-lab experiments through pre-survey and post-survey assessments. It also assesses their performance in the subject through pretest and posttest and analyzes the influence of web-based laboratory activities on students' attitudes and performance in Chemistry. This research utilized the experimental design, employing the pre-test and post-test strategies. The respondents are the 154 Senior High School students of the Science Technology Engineering and Mathematics (STEM) strand of St. Paul University Dumaguete. However, the data collected from the control group was excluded from this analysis to concentrate on the 79 respondents of the experimental group. This allows for a comprehensive examination of the web-based laboratory experiment's potential benefits on the attitudes and performance of students towards chemistry. The validated survey questionnaire and pretest and posttest questions were used to gather the data. Statistical tools used in the study were Mean, Wilcoxon Test, Spearman's Rank Order Correlation, Paired Samples t-test, and Cohen's d. The results revealed that web-based laboratory experiments effectively improve students' attitudes and performance in chemistry. The perceived value of Chemistry emerged as a crucial factor influencing performance in laboratory tasks. Web-based instruction makes learning fun, emphasizing its real-world application and increasing students' overall value and positive attitude in Chemistry.

Keywords: Chemical concentrations; Conventional laboratory; Web-based laboratory.

1.0 Introduction

Chemistry is an important branch of science. It is a core and a prerequisite subject for offering most science-oriented courses. It is a preparatory subject for those who aspire to become chemical engineers, scientists, medical doctors, and environmentalists, thus opening the doors to numerous job opportunities (Kots, 2021). However, students often struggle with essential chemistry topics, including writing chemical formulas and equations and solving problems involving complex calculations, such as expressing chemical concentrations and stoichiometry. This is linked to negative attitudes, such as hesitancy to engage in laboratory activities and fear of failure due to the subject's complexity. If negative attitude and behavior levels remain unmonitored, students' engagement in the subject declines, and their academic performance will be affected (Musengimana, 2020). Galang et al. (2022) of the American Chemical Society stressed that educators must utilize modern strategies, including web-based and virtual laboratory activities, to counter the declining interest and engagement worldwide. Kolil et al. (2020) highlighted that educators must utilize technology, including interactive online platforms, virtual laboratories, game-based instruction, and video tutorials, to enhance students' learning experiences.

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Abarro and Asuncion (2021) revealed that students' interest in chemistry as an academic discipline is declining across the globe. In Philippine schools, chemistry is included in the general education curriculum and is perceived as difficult—a common evaluation of students across secondary and higher education institutions. Non-science majors' primary motivation for taking the course is solely graduation. Students, particularly those with negative high school chemistry experiences, often approach the subject with skepticism and reluctance, which has caused a decline in students' interest in enrolling and engaging in the subject. Alo (2021) stated that improving the quality of education is a significant challenge for Southeast Asian nations. While technology is occasionally used in classrooms, its overall impact on learning has been quite effective. Science is the subject students struggle with most in elementary and high school. Some studies suggest using multimedia and web-based curricula to enhance student learning. In the current era, leveraging information technology is seen as a solution for educational institutions to improve and provide quality instruction.

After reviewing various studies, the researcher found that (a) research about students' attitude, motivation, self-confidence, and interest provides limited quantitative data, (b) no studies have assessed or evaluated the four constructs of attitude in learning and performing chemistry activities, namely, self-confidence, valuing, enjoyment, and motivation, and (c) there have been many studies showing the connection between attitudes towards science and performance in science. Also, the results are not consistent. Some studies indicate that the link between students' attitudes toward science and their science performance is weak, insignificant, or negative.

This research, however, aims to measure students' academic performance through a self-made pretest and posttest and evaluate attitudes through a survey. It analyzed the connection between attitude and academic performance, specifically in the context of web-based laboratories, which are considered an effective method for teaching chemical concentrations. Hence, as a chemistry instructor and a Master of Arts and Education student majoring in General Sciences, the researcher intends to evaluate students' attitudes (self-confidence, valuing, enjoyment, and motivation) and assess students' academic performance in utilizing a web-based laboratory to express chemical concentrations.

2.0 Methodology

2.1 Research Design

The research utilized a True Experimental Design employing the Pretest-Posttest Control Group Design. The experimental group was exposed to web-based laboratory experiments. This involved (a) evaluation of the level of attitude of students about self-confidence, valuing, enjoyment, and motivation, using a survey questionnaire before and after the web-based laboratory experiment of the experimental group, (b) analysis of the significant difference in the level of attitude of the experimental group regarding self-confidence, valuing, enjoyment, and motivation before and after the web-based laboratory, (c) assessment on students' academic performance based on test scores using a test questionnaire before and the given intervention for the experimental group, (d) analysis on the significant difference in the performance of the experimental group before and after the web-based laboratory, and (e) analysis on the significant relationship between the level of attitude of the experimental group in performing Chemistry laboratory after the web-based laboratory experiment and their performance in expressing chemical concentrations.

2.2 Research Locale

The study was conducted at St. Paul University Dumaguete (SPUD), a private Roman Catholic educational institution managed by the Sisters of St. Paul of Chartres (SPC) in Bantayan, Dumaguete, Philippines. Founded on October 29, 1904, SPUD initially operated under the guidance of seven pioneering sisters from Vietnam who responded to an invitation by the diocese bishop based at Iloilo. The university, established initially as an elementary school, has since expanded its educational offerings and now includes basic education and higher education programs. SPUD is one of the 40 educational institutions owned and operated by the SPC Sisters across the Philippines, promoting core values and encouraging social responsibility among its students. The Basic Education Department of SPUD was specifically chosen as the research site for this study due to its conducive academic environment, ease of accessibility, and the availability of a diverse participant pool. This setting provides an ideal backdrop for conducting educational research, ensuring a comprehensive and representative sample.

2.3 Research Participants

The respondents for this study were drawn from the four sections of Senior High School Grade 12 STEM students at the Basic Education Department of St. Paul University Dumaguete. Two sections were designated as the control group, while the other two sections, comprising 79 students, were assigned to the experimental group. A one-stage cluster sampling technique was applied in assigning the classes to either the experimental or control group. This method ensures random assignment by giving every member of the population an equal chance of being included in the sample. Subsequently, a z-test was utilized to determine if there was an equal level of knowledge in science between the two groups. The results indicated that the p-value (0.198) was greater than the significance level (0.05), suggesting no significant difference in their prior knowledge of science. The Grade 12 STEM students were selected as the target population due to their relevance to the research focus, which evaluates attitudes and performance based on test scores before and after utilizing the web-based laboratory for the experimental group and the conventional laboratory experiment for the control group, specifically on the topic of expressing chemical concentrations.

2.4 Research Instrument

The study made use of a modified survey questionnaire rated on a five-point Likert's scale adapted and taken from The Attitudes Toward Mathematics Inventory (ATMI) by Majeed, Darmawan, and Lynch (2013), a survey used to measure the level of confidence, anxiety, motivation, and usefulness of Mathematics. The survey questionnaire was contextualized for science and is divided into three parts. The first part is a disclosure statement; the second part includes the student's profile; the third part is the indicators and the levels of self-confidence, valuing, enjoyment, and motivation.

The researcher constructed test questionnaires for the pretest and posttest based on the Table of Specifications, which included 30 items for molarity and molality, 30 items for percent concentration, and 30 items for parts per million, parts per billion, and mole fraction. The pretest and posttest questionnaires were used to assess students' performance in expressing chemical concentrations.

Moreover, the intervention for the experimental group comprised three web-based experiment activity cards designed by the researcher. Web-based activity 1 is about expressing chemical concentrations—determining the molarity and molality of a solution. Web-based activity 2 expresses chemical concentrations—percent concentrations of cola and sucrose. Web-based activity 3 expresses chemical concentrations—mole fraction, ppm, and ppb of generic cola. The activity cards were the guide in utilizing the web-based laboratory for each mentioned topic in expressing chemical concentrations.

The activity cards, survey questionnaires on attitude, and test questionnaires to assess performance were presented to three experts in the field of science for content validity and cross-checking. Additionally, the validation process involved input from the researcher's subject adviser, statistician, thesis adviser, and other domain experts to ensure the tools were valid and closely aligned with the research objectives and issues. Furthermore, suggestions were considered in the refinement of the different tools.

A dry run of the survey questionnaire on attitude was conducted on thirty (30) Grade 12 students of the Humanities and Social Sciences strand of St. Paul University Dumaguete. The students who participated in the dry run were excluded from the main study. Cronbach's alpha test was used to check the item's reliability and how closely related the items were to each other. In this test, 0.70 is acceptable, and higher alpha values are preferred. The results of the Cronbach's alpha test for the different parts of the questionnaire were as follows: (a) Self-confidence = 0.897; (b) Valuing = 0.896; (c) Enjoyment = 0.892; and (d) Motivation = 0.902. It must be noted that all values are greater than (>) 0.70. Hence, the items are reliable. Meanwhile, a test and retest of the three questionnaires were conducted on thirty (30) first-year nursing students of St. Paul University Dumaguete. Spearman's reliability test was used to check the pretest and posttest scores. Values equal to or greater than 0.70 are regarded as acceptable. The reliability test results are the following: Molarity and Molality = 0.707, Percent Concentration = 0.700, Mole Fraction, ppm, and ppb = 0.701. These values affirm that the items are reliable.

Chemcollective.com is the web-based laboratory platform provided to the experimental group. Links to the online laboratory workbench were provided so that the students could easily access the platform.

2.5 Data Gathering Procedure

The researcher ensured all recommendations and corrections from the panel members were incorporated into the study. The research process was arranged in the following phases: 1.) Design Hearing and Approval of Consent to Study; 2.) Validation Phase; 3.) Testing for Reliability Phase; 4.) Pre-evaluation of Students' Attitude in Learning and Doing Chemistry Activities; 5.) Introduction of the Web-based laboratory; 6.) Lesson Delivery, Administration of Pretest, Conduction of Experiment, and Administration of Posttest for Molarity and Molality; 7.) Lesson Delivery, Administration of Pretest, Conduction of Experiment, and Administration of Posttest for Percent Concentration; 8.) Lesson Delivery, Administration of Pretest, Conduction of Experiment, and Administration of Posttest for Mole Fraction, PPM, and PPB; 9.) Post-evaluation of Students' Attitude in Learning and Doing Chemistry Activities; and 10.) Final phase.

2.6 Data Analysis Procedure

The tools used by the researcher in analyzing the data include: a) Mean was used to determine the level of students' attitudes towards chemistry before and after using web-based laboratory experiments in expressing chemical concentrations. Furthermore, it was utilized to show students' performance in expressing chemical concentrations of the experimental group; b) Wilcoxon Test was used to analyse the significant difference in the attitude of the experimental group towards performing chemistry laboratory before and after the introduction of web-based lab; c) Spearman rank correlation coefficient was employed to determine the extent of the relationship between the level of students' attitude towards performing chemistry laboratory after the web-based laboratory experiment and their performance in expressing chemical concentrations; d) Paired-samples t-test was used to calculate the significant difference in students' academic performance before and after the intervention; and e) Cohen's d was used to determine the effect size of the analysis on the difference in the experimental group's performance in expressing chemical concentrations before and after utilizing the web-based laboratory experiment and the analysis on the difference in the performances of the experimental and control groups after the introduction of the web-based laboratory and conventional method of experiment.

Conversely, the data collected from the control group was excluded from this analysis to concentrate on the experimental group. This allows for a comprehensive examination of the web-based laboratory experiment's potential benefits on students' attitudes and performance toward chemistry.

2.7 Ethical Considerations

Ethical standards were observed throughout the research endeavor, and ethical approval was sought from the Foundation University Research Office's ethical committee. The principles of self-determination, confidentiality, and thorough acknowledgment of the study's potential benefits and risks were underscored.

3.0 Results and Discussion

3.1 Levels of attitude of the Experimental Group in Performing Chemistry Laboratory before and after the Introduction of the Web-based Laboratory Experiment

Table 1. Attitude of the experimental group in performing chemistry laboratory before and after the introduction of the web-based laboratory experiment in terms of self-confidence

Indicators	Before		After	
	$\bar{x}$	VD	$\bar{x}$	VD
1. Working on Chemistry at home makes me feel:	3.72	C	3.95	C
2. When I do chemistry activities, I feel:	3.58	C	3.81	C
3. When I know that my class will be working on Chemistry at school, I feel:	3.57	C	3.96	C
4. Thinking about working on Chemistry in class makes me feel:	3.54	C	3.97	C
5. When I think about Chemistry, I feel:	3.33	FC	3.77	C
6. Compared to other school subjects, Chemistry makes me feel:	3.30	FC	3.80	C
7. When my teacher says that he or she is going to give me a Chemistry activity, I feel:	3.28	FC	3.76	C
8. When I solve Chemistry problems, I feel:	3.15	FC	3.62	C
9. When I know that I am going to have a Chemistry test, I feel:	2.96	FC	3.66	C
10. When the teacher calls on me to answer in Chemistry, I feel:	2.81	FC	3.43	C
11. If I have to solve a Chemistry problem on the board in front of the class, I feel:	2.52	LC	3.29	LC
Composite	**3.25**	**FC**	**3.73**	**C**

Note: 4.21 – 5.00 (Very Confident, VC), 3.41 - 4.20 (Confident, C), 2.61 – 3.40 (Fairly Confident, FC), 1.81 – 2.60 (Less Confident, LC), 1.00–1.80 (Not Confident, NC)

Tables 1, 2, 3, and 4 present the levels of attitude of the experimental group in performing Chemistry laboratory activities before the introduction of the web-based laboratory experiment in terms of confidence, value, enjoyment, and motivation revealed that the students are "Fairly Confident" ($\bar{x}$ = 3.25), have "Very High" sense of value for Chemistry ($\bar{x}$ = 4.21), manifest "High" enjoyment ($\bar{x}$ = 3.82), and are "Motivated" ($\bar{x}$ = 3.66). Meanwhile, the data also exposed that after the introduction of the web-based laboratory experiment, the students are "Fairly Confident" ($\bar{x}$ = 3.73), have "Very High" sense of value for Chemistry ($\bar{x}$ = 4.29), show "High" enjoyment in performing activities ($\bar{x}$ = 4.08), and are "Motivated" ($\bar{x}$ = 3.99) in performing Chemistry-related tasks.

Table 1 presents the self-confidence levels of the experimental group in performing chemistry laboratory tasks before and after the introduction of the web-based laboratory experiment. Before utilizing the web-based laboratory experiment, the students were "fairly confident" in working on chemistry-related activities, as evidenced by the composite mean of 3.25. This finding aligned with the claims of Jabeen (2022) when they noted that the students are only confident in doing Chemistry activities using the lecture-discussion method because the subject poses challenges to them as they frequently develop specific behaviors, such as hesitating to engage in doing experiments. This finding parallels the claims of Abarro and Asuncion (2021) that students, particularly those with negative high school chemistry experiences, approach the subject with resistance.

Furthermore, it can be noticed that after utilizing the web-based laboratory experiment, the students are "confident" in performing Chemistry laboratory activities in school and at home, as signified by the composite mean of 3.73. The result implies that a web-based lab sustains and increases the confidence and skill of the students in carrying out tasks. This result coincides with the findings of Giamattei et al. (2020), who claimed that the web-based lab positively impacts students' interest in participating and boosts their confidence in doing scientific tasks. Similarly, the study of Hernández-de-Menéndez et al. (2019) revealed the same when they found that Virtual laboratories mimic real experiments by simulating everything on computers. Web-based labs sustain and increase the confidence and skill of students in carrying out tasks.

Habiddin et al. (2020) also found that when students feel more assured about their capability to learn a subject, it can positively impact their overall grasp of the material and contribute to a more effective and meaningful learning experience. Students' confidence in chemistry, physical chemistry, and chemical kinetics made them appreciate the concepts in these areas.

Table 2. Attitude of the experimental group in performing chemistry laboratory before and after the introduction of the web-based laboratory experiment in terms of value

Indicators	Before			After		
	$\bar{x}$	VD	EoV	$\bar{x}$	VD	EoV
1. The concepts in Chemistry can be applied in the real world.	4.49	SA	VH	4.49	SA	VH
2. Performing experiments in Chemistry engages me to focus, a skill that can also be applied to other areas.	4.29	SA	VH	4.30	SA	VH
3. Doing activities in Chemistry, like experimentation, develops my scientific skills.	4.23	SA	VH	4.22	SA	VH
4. Chemistry, like other sciences, encourages me to stay curious and engaged.	4.23	SA	VH	4.27	SA	VH
5. Chemistry helps me to understand daily life and practical concepts.	4.18	A	H	4.33	SA	VH
6. Chemistry nurtures a sense of curiosity and inquiry.	4.18	A	H	4.28	SA	VH
7. Chemistry helps me to develop analytical skills.	4.13	A	H	4.34	SA	VH
8. Chemistry is one of the most important disciplines.	4.13	A	H	4.18	A	H
9. Conducting experiments in Chemistry can develop my independence.	4.00	A	H	4.22	SA	VH
Composite	**4.21**	**SA**	**VH**	**4.29**	**SA**	**VH**

Note: 4.21 – 5.00 (Strongly Agree, SA - Very High, VH), 3.41 - 4.20 (Agree, A – High, H), 2.61 – 3.40 (Moderately Agree, M – Moderate, M), 1.81 – 2.60 (Disagree, D – Low, L), 1.00 – 1.80 (Strongly Disagree, SD - Very Low, VL)

Table 2 presents the experimental group's perceived value of chemistry laboratory tasks before and after the introduction of the web-based laboratory experiment. It can be gleaned from the result that the level of attitude in valuing the experimental group before and after the given intervention in this aspect is "Very High," having composite means of 4.21 and 4.29. It can be observed that the experimental group rated "Very high" on the following indicators: a) Chemistry concepts can be applied in the real world; b) Chemistry experiments are engaging; c) Chemistry experiments develop their scientific skills; and d) Chemistry sustained students' curiosity and engagement with weighted means ranging from 4.22 to 4.29. The results suggest that the respondents highly

recognized the importance of learning the concepts relevant to Chemistry as these could greatly help develop their scientific and analytical thinking skills.

The research carried out by Iyamuremye et al. (2023) unveiled that the students highly valued conventional science laboratories and appreciated them because of their essential role in transforming the learning environment. It allows students to work cooperatively in groups, enhancing their understanding of scientific concepts, inquiry skills, and scientific attitude as they investigate scientific phenomena. Hensen and Barbera (2019) expressed similar observations when they claimed that the traditional lab is useful and valuable to the learning process since it provides students with hands-on experience, enabling them to engage directly with materials and equipment, thereby reinforcing theoretical concepts learned in lectures and textbooks.

Conversely, Trúchly et al. (2019) expressed that students show appreciation and prominent value upon utilizing online resources such as the web-based laboratory. They further observed that students' motivation to learn and their knowledge acquisition truly improved when the virtual lab was introduced. This is backed up by the claims of De Las Heras et al. (2021), who divulged that students show great value in utilizing or integrating virtual laboratories as it is well-received and appreciated. Its use shortens the time needed to conduct experiments.

Table 3. Attitude of the experimental group in performing chemistry laboratory before and after the introduction of the web-based laboratory experiment in terms of enjoyment

Indicators	Before			After		
	$\bar{x}$	VD	EoE	$\bar{x}$	VD	EoE
1. I enjoyed participating in the chemistry experiment.	4.18	A	H	4.29	SA	VH
2. I look forward to participating in Chemistry activities.	4.00	A	H	4.13	A	H
3. The activity enhances my enjoyment of doing activities in Chemistry.	3.99	A	H	4.23	SA	VH
4. I derive satisfaction from understanding chemical reactions through web-based activities.	3.85	A	H	4.03	A	H
5. Completing chemistry activities online is a fun experience for me.	3.76	A	H	4.05	A	H
6. The interactive nature of online chemistry experiments makes the activities more enjoyable.	3.75	A	H	4.09	A	H
7. Overall, I enjoy the interactive aspects of learning chemistry through online activities.	3.63	A	H	4.04	A	H
8. I find pleasure in exploring chemistry concepts through web-based simulations.	3.61	A	H	3.94	A	H
9. Overall, I enjoy the interactive aspects of learning chemistry through online activities.	3.61	A	H	3.97	A	H
Composite	**3.82**	**A**	**H**	**4.08**	**A**	**H**

Note: 4.21 – 5.00 (Strongly Agree, SA - Very High, VH), 3.41 - 4.20 (Agree, A – High, H), 2.61 – 3.40 (Moderately Agree, M – Moderate, M), 1.81 – 2.60 (Disagree, D – Low, L), 1.00 – 1.80 (Strongly Disagree, SD - Very Low, VL)

Table 3 presents the enjoyment levels of the experimental group in performing chemistry laboratory tasks before and after the introduction of the web-based laboratory experiment. The data disclosed that the experimental group "Agree" that they "Highly" enjoy performing laboratory activities in Chemistry before and after the web-based laboratory is utilized, as revealed in its composite mean of 3.82 and 4.08, respectively. Specifically, the data reveal that the experimental group "strongly agree" that they enjoyed very much when web-based experiments were used as they actively performed chemistry experiments and that doing the activities brings them considerable enjoyment, as revealed in its weighted means of 4.29 and 4.23. These findings indicate that the students exhibit a positive attitude towards performing Web-based chemistry laboratory activities; thus, they enjoyed what they were doing, leading them to become productive.

Adkins (2020) revealed that students find conventional or hands-on laboratory activities more interesting and enjoyable. Formella-Zimmermann et al. (2022) also claimed that students are more into the hands-on approach and considered these activities very engaging, which resulted in higher perceived enjoyment scores among the participants. Salame and Makki (2021) presented their opposite claims when they found that interactive simulations, which are like web-based instruction, positively impact students' attitudes and develop students' conceptual understanding of chemistry concepts. They also added that interactive simulations provide students with quality learning opportunities and enjoyment in class. Also, Engelberger et al. (2021), in their study also discovered that students show enjoyment and positive attitude towards cloud-based or online software because

it allows them to understand concepts and it also improves their ability to perform activities within reasonable time frames and their enjoyment during their execution.

Table 4. Level of Attitude of the experimental group in performing chemistry laboratory before and after the introduction of the web-based laboratory experiment in terms of motivation

Indicators	Before		After	
	$\bar{x}$	VD	$\bar{x}$	VD
1. Doing laboratory experiments in Chemistry makes me feel:	4.10	M	4.28	EM
2. Participating in chemistry class makes me feel:	3.82	M	4.04	M
3. Learning chemistry makes me feel:	3.78	M	3.99	M
4. Mastering Chemistry concepts makes me feel:	3.77	M	4.20	M
5. Exploring advanced topics in chemistry makes me feel:	3.76	M	4.00	M
6. Thinking about working on Chemistry in class makes me feel:	3.76	M	4.01	M
7. Working on Chemistry at home makes me feel:	3.66	M	3.94	M
8. Engaging myself in online chemistry tasks or activities makes me feel:	3.63	M	3.97	M
9. Chemistry assignments make me feel:	3.38	FM	3.87	M
10. Solving Chemistry problems makes me feel:	3.38	FM	3.73	M
11. Knowing that I am going to have a Chemistry test makes me feel:	3.22	FM	3.67	M
Composite	**3.66**	**M**	**3.99**	**M**

Note: 4.21 – 5.00 (Extremely Motivated, EM), 3.41 - 4.20 (Motivated, M), 2.61 – 3.40 (Fairly Motivated, FM), 1.81 – 2.60 (Less Motivated, LM), 1.00 – 1.80 (Not Motivated, NM)

Table 4 presents the motivation levels of the experimental group in performing chemistry laboratory tasks before and after the introduction of the web-based laboratory experiment. The results disclosed that students in the experimental group are motivated to perform chemistry laboratory experiments before and after web-based experiments, as reflected in its composite means of 3.66 and 3.99. The findings further reveal that the students agree that they are extremely motivated to do chemistry laboratory experiments. The results suggest that students in the experimental group find the laboratory experiments interesting and engaging as they are more likely to participate in the activities and seek to understand the concepts fully. It fosters a deeper engagement with the subject matter as students become more enthusiastic and proactive in their learning. The same finding was unveiled by Elford et al. (2022), who claimed that online learning on inorganic stereochemistry has engaged and motivated students. Viitaharju et al. (2021) also noted that the classroom environment is engaging and effective when the teacher utilizes a web-based activity in performing their laboratory experiments. This result coincides with the findings of Trúchly et al. (2019), who posited that students' motivation to learn when the web-based lab was introduced to them. Interactive and accessible virtual labs improve motivation for studying, potentially leading to increased learning outcomes and a more positive educational experience.

3.2 Difference in the Level of Attitude among the Experimental Group in Performing Chemistry Laboratory Before and after the Introduction of the Web-based Laboratory Experiment

Table 5 illustrates the significant difference in attitude among the experimental group of students performing laboratory tasks before and after implementing the web-based laboratory experiment, and the data indicated the following results: (a) Self-Confidence: p = .001 (significant); (b) Perceived Value: p = 0.022 (significant); (c) Enjoyment: p = .001 (significant); and Motivation: p = 0.368 (not significant).

Table 5. Difference in the attitude of the experimental group in performing chemistry laboratory before and after the introduction of the web-based laboratory experiment (n = 79)

Variables	Median		Difference	W	p-value	Remark
	Before	After				
Self-Confidence	3.27	3.73	0.46	211.5	<.001	Significant
Value	4.33	4.44	0.11	678.0	0.022	Significant
Enjoyment	3.78	4.11	0.33	767.5	<.001	Significant
Motivation	3.64	4.00	0.36	542.0	0.368	Not significant

Wilcoxon Test at 5% level of significance

Conversely, the Wilcoxon Test reveals a significant difference in students' attitudes in terms of their self-confidence (p <.001), perceived value (p = 0.002), and enjoyment (p <.001) in learning Chemistry. This indicates that the introduction of the web-based laboratory experiment has effectively enhanced students' confidence in

conducting Chemistry laboratory work, increased their appreciation of the subject's value, and boosted their enjoyment in learning Chemistry.

The results agree with the claims of Oladejo et al (2021), who stressed that the use of varied teaching strategies in chemistry education, in contrast to traditional teaching methods such as the use of computer simulation or technology-based activities, is effective, therefore improving students' attitudes in learning such as self-confidence. According to Habiddin et al. (2020), students' confidence in chemistry can affect their achievement positively. Moreover, in the increase in appreciation of the subject's value, Nikolic (2015) supports that students' appreciation of online resources as a tool for learning will enhance their learning experiences, increase productivity, and improve teaching and learning methods. Furthermore, in terms of student's enjoyment in learning Chemistry, Engelberger et al. (2021) explained that students show enjoyment and positive attitude towards cloud-based or online software on different topics in science because it helps them understand the concepts and improve their abilities to perform activities within reasonable time frames. In their study, Salame and Makki (2021) discovered that a web-based laboratory allows students to grasp, enjoy, and connect chemical systems and sub-microscopic phenomena through dynamic visualizations.

The data also indicate no significant difference in students' motivation ($p = 0.368 > \alpha = 0.05$) before and after implementing the web-based laboratory experiment. This suggests that while the web-based approach successfully enhanced self-confidence, perceived value, and enjoyment, it did not significantly affect students' overall motivation. One possible explanation is that factors beyond the scope of the web-based laboratory may influence motivation.

This result is in opposition to the claims of Viitaharju et al. (2021), who noted that a classroom environment is effective when a teacher utilizes a web-based activity in performing laboratory experiments, as it heightened student involvement and motivation, resulting in improved learning outcomes. Elford et al. (2022) also mentioned that online learning on inorganic stereochemistry has engaged and motivated students.

3.3 Performance of the Experimental Group on Expressing Chemical Concentrations before and after Utilizing the Web-based Laboratory Experiment

Table 6 shows that the experimental group received very satisfactory ratings on expressing concentrations before and after utilizing the web-based laboratory experiment, with mean ratings of 85.54 % and 86.50 %, respectively.

Table 6. Performance of the experimental group on expressing chemical concentrations before and after utilizing the web-based laboratory experiment (n =79)

Rating	Verbal Description	Before		After	
		f	%	f	%
90 – 100	Outstanding (O)	12	15.19	20	25.32
85 – 89	Very Satisfactory (VS)	41	51.90	31	39.24
80 – 84	Satisfactory (S)	18	22.78	25	31.65
75 – 79	Fairly Satisfactory (FS)	8	10.13	3	3.80
≤ 74	Did Not Meet Expectations (DNME)	---	---	---	---
Total		79	100.00	79	100.00
Mean		**85.54% (VS)**		**86.50% (VS)**	
SD		**4.13**		**3.87**	

Performance improved after utilizing the web-based lab. The percentage of the students in the "Outstanding" category increased from 15.19% to 25.32%. The mean score also increased from 85.54% to 86.50%, indicating a slight overall improvement in performance. There is a shift from lower to higher categories in the distribution of scores. For instance, the "Fairly satisfactory" category decreased from 10.13% to 3.80%, and the "Satisfactory" category increased from 22.78% to 31.65%. This suggests that students who previously scored in the Fairly Satisfactory level improved up to Satisfactory, Very Satisfactory, and others, even in the Outstanding levels. The standard deviation decreased from 4.13 to 3.87, indicating that the scores became slightly more consistent after the intervention. The results revealed that no students are classified under the "Did Not Meet Expectations" category either, which is a positive sign of overall competency in the group.

The result is congruent with the study conducted by Theresia et al. (2023) using a one-group pretest-posttest design to assess the impact of virtual laboratory media on student learning outcomes, specifically acid-base titration concepts. They disclosed a significant enhancement in student learning, highlighting the effectiveness of the virtual lab in facilitating a deeper comprehension of the subject matter. The virtual lab helped students grasp complex concepts more effectively by providing an interactive and engaging learning environment, leading to notable improvements in their academic performance and practical skills.

3.4 Difference in the Performance of the Experimental Group on Expressing Chemical Concentrations Before and after Utilizing the Web-based Laboratory Experiment

Table 7 unveils a significant difference in the experimental group's performance on expressing chemical concentrations before and after engaging with the web-based laboratory experiment, with a p-value of 0.009.

Table 7. Analysis table on the difference in the performance of the experimental group on expressing chemical concentrations before and after utilizing the web-based laboratory experiment (n = 79)

Performance	$\bar{x}$	D	t	p-value	Decision	Remark	Effect Size
Before	85.54	0.96	2.68	0.009	Reject H_{o4}	Significant	0.301
After	86.50						

Level of significance = 0.05; Cohen's d Effect Size Interpretation: d=0.2 (small); d=0.5 (medium); d =0.8 (large)

Meanwhile, the table presents data indicating a significant difference (p = 0.009) in the experimental group's performance expressing chemical concentrations before and after engaging with the web-based laboratory experiment. The data illustrates an improvement in their performance following the implementation of the web-based laboratory experiment, signifying its effectiveness in enhancing their proficiency in this aspect of Chemistry. Also, the outlined data reveal an effect size of 0.301, indicating a small but significant improvement in the experimental group's performance on expressing chemical concentrations after utilizing the web-based laboratory experiment. This suggests that while the web-based lab positively impacted student performance, the magnitude of the improvement was modest. The finding parallels the claims of Elford et al. (2022), who disclosed that online learning platforms improve students' overall performance. Viitaharju et al. (2021) also stressed the same when they revealed that web-based activities in performing laboratory experiments heighten student involvement and learning outcomes.

3.5 Relationship between the Level of Attitude of the Experimental Group in Performing Chemistry Laboratory after the Web-based Laboratory Experiment and their Performance in Expressing Chemical Concentrations

Table 8 reveals that there is no significant relationship between the level of Attitude of the Experimental Group in Performing Chemistry Laboratory activities after the Web-based Laboratory Experiment and their Performance in Expressing Chemical Concentrations in the following constructs: (a) Self-Confidence: p = 0.492; (b) Enjoyment: p = 0.341; and (c) Motivation: p = 0.096. Furthermore, the results also divulge that a significant relationship existed between students' perceived Value: p = 0.011 and their performance in expressing Chemical Concentrations.

Table 8. Relationship between the students' level of attitude of the experimental group in performing chemistry laboratory after the web-based laboratory experiment and their performance in expressing chemical concentrations

Performance Correlated to the Following Attitude Constructs:	r_s	p-value	Remark
Self-Confidence	0.078	0.492	Not significant
Value	0.285	0.011	Significant
Enjoyment	0.109	0.341	Not significant
Motivation	0.189	0.096	Not significant

Level of significance = 0.05; n = 16 in each group

Moreover, the data outlined indicate that among the four constructs of students' attitude in the experimental group, only their perceived value of Chemistry demonstrates a significant relationship (p = 0.011) with their performance in expressing chemical concentrations. This implies that as students' perceived value of Chemistry increases, their performance in the mentioned area also improves.

The result of the study is in line with the findings of Nikolic (2015) as he indicated that students' appreciation of online resources, particularly the Training Laboratory, as a tool in teaching chemistry laboratory activities, contributes to enhanced learning experiences, increased productivity, and improvements in students' academic performance. Trúchly et al. (2019) also revealed in their study that students appreciated and valued the virtual laboratory since it improved their learning and increased their motivation to learn. De Las Heras et al. (2021), in their study, claimed that students show great value in utilizing virtual laboratories as it shortens the time to conduct experiments. In addition, the study of Eya and Tjprc (2020) highlighted a significant positive relationship between students' attitude to chemistry and their performance in the subject. Meanwhile, the lack of a significant relationship between students' attitudes regarding self-confidence, enjoyment, and motivation and their performance indicates that changes in their degrees of self-confidence, enjoyment, and motivation are not associated with shifts in their performance in expressing chemical concentrations.

4.0 Conclusion

The findings collectively underscore the effectiveness of innovative teaching methods, particularly web-based laboratory experiments, in enhancing students' attitudes regarding motivation, engagement, enjoyment, putting value to chemistry, and students' performance in Chemistry education. Web-based laboratory activities are important in enhancing students' performance and attitude toward chemistry. This hands-on experience deepens their understanding of complex concepts, leading to improved academic performance. The flexibility and convenience of web-based experiments increase engagement, as students can learn at their own pace and re-examine experiments as needed. Moreover, the interactive nature of web-based instruction makes learning more fun, nurturing students' positive attitudes toward chemistry and emphasizing its real-world applications, thus increasing students' overall valuing of the subject. This study uniquely contributes to existing educational practices by highlighting how web-based laboratory experiments can be effectively integrated into traditional curricula to improve student outcomes. The small effect size observed in the significant difference in the experimental group's performance on expressing chemical concentrations before and after utilizing the web-based laboratory suggests that while there was a positive impact, the magnitude of improvement was modest. This could be due to the novelty of the web-based approach, initial adjustment periods for students, or variations in individual student engagement and learning styles. Building on these findings, future research could focus on refining web-based laboratory experiments by integrating adaptive learning technologies or offering additional resources to assist students in adapting to this mode of instruction. Further studies might also consider examining these approaches' long-term impact and adaptability across various educational environments. For educators, incorporating web-based labs into their teaching strategies can significantly enhance student engagement and boost academic performance. To achieve the best outcomes, it would be beneficial to introduce these tools gradually and consistently gather and respond to student feedback to improve the learning experience.

5.0 Contributions of Authors

The author responsible for data collection also took the lead in conceptualizing the study. Concurrently, the adviser contributed by thoroughly reviewing and refining the manuscript, ensuring its academic quality. Moreover, specialists in statistics and methodology played a key role in developing research methods and performing data analyses. The authors affirm their collaborative efforts throughout the research, and each participated in the final review and approval of the paper.

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7.0 Conflict of Interests

This study has no conflict of interest of any sort.

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Exploring Ecological Consciousness: An Ecocritical Analysis of Marjorie Evasco's Poetry through Commoner's Ecological Laws

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Abstract. This study critically examined the textuality of select poems by Marjorie Evasco using ecocriticism theory based on Commoner's (1991) ecological principles: Everything Is Connected, Everything Must Go Somewhere, and Nature Knows Best. The research aimed to depict Evasco's writings' ecological messages and themes by line-by-line coding. Data were sourced from Evasco's book "Dreamweavers" and various theoretical texts. Findings revealed that Evasco's poems reflect Commoner's (1991) ecological laws, portraying them figuratively and literally. The analysis highlights themes such as nature as a teacher, nature's intrinsic value, hope in nature, conflicts with modernization, and human impacts on nature. The study recommends further analysis of Evasco's work through ecofeminism and suggests including her poems in literature classes to serve as a platform for environmental awareness. Future research should explore other works of Evasco and similar authors.

Keywords: Ecocriticism; Ecological principles; Ecopoetry; Environmental literature; Marjorie Evasco.

1.0 Introduction

Commoner (1991) warned that our production methods harm the ecosphere and that our civilization is self-destructive. Despite these crises, there is still hope. We can create a more livable world by recognizing our connection to nature and the importance of preserving it. Ecopoetry, a genre that explores the relationship between humans and nature, has the potential to inspire environmental awareness and social change. Through ecopoetry, teachers can teach creatively toward environmental literacy, and humans and nature are connected. For instance, Marjorie Evasco's poetry highlights nature's beauty and encourages a simpler, more sustainable way of living. Her work can help readers develop a deeper appreciation for the environment and understand the importance of preserving it. This study examined Marjorie Evasco's poetry through the lens of ecocriticism to promote environmental awareness. By analyzing her work, the study sought to fill gaps in the current literature on ecopoetry and demonstrate how literature can contribute to a greater understanding of our interconnectedness with nature.

2.0 Methodology

This study employed textual analysis, focusing on Commoner's (1991) ecocritical framework, three ecological laws, and figures of speech. According to Botan L. Frey and G. Kreps, textual analysis is a strategy used to depict

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and translate the qualities of a visual message, aiming to describe the content, structure, and elements of the messages contained in writings. Textual analysis is used to interpret the content of the selected poems and uncover their underlying meaning and ecological themes. It aims to understand the poems' line-by-line coding, distinguish their significant themes, and provide an analysis.

The main data source for this study comprises selected poems from Marjorie Evasco's book The Dreamweavers. The selected poems were considered because they are relevant and are fundamental to our interconnectedness to nature and its value. The theoretical data are sourced from electronic books and published and unpublished foreign studies that support the study, providing logically and verbally persuasive, introspective, and discursive syntheses of meaning utilizing ecocriticism in the light of Commoner's (1991) three of the four ecological laws. The poems were selected from Evasco's book and analyzed using ecocriticism based on Commoner's (1991) three of the four ecological laws. Ecocriticism theory was used in this study to help interpret the poems and comprehensively point out the connection between humans and the natural world. Ethical considerations were also observed, with all theoretical sources cited appropriately to avoid plagiarism. No human or animal subjects were involved, so no specific ethical approvals were required.

3.0 Results and Discussion

3.1 Ecological Laws Presented in the Select Poems of Marjorie Evasco

The first phase of this analysis examines the Commoner's three of the four ecological laws presented in the poems (see Table 1), which are signified in the poems' different lines.

Table 1. Commoner's three of the four Ecological laws presented in Marjorie Evasco's selected poems

Poem	Everything is Connected to Everything Else	Everything Must Go Somewhere	Nature Knows Best
Jade Mountain Peak	Lines 1-10, Line13 Line 14 Summary: Relationship of man and nature	Lines 11-12 Summary: Simplicity of living	Lines 3-6, Lines 13-14 Summary: Nature's beautiful abilities and limits.
The Macrame-Bead Maker	Lines 11-12, Lines 13-17 Summary: Man's life is compared with the spider's life	Lines 1-8 Summary: Recycling	Lines 2-4 Summary: Utilizing nature's resources with limitations
Scaling Jade Mountain	Lines 1-17 Summary: Man's responsibility to care for nature	Lines 8-10 Summary: Everything has its usage.	Lines 1-17 Summary: Using and appreciating the gift of nature
Sampaguita Song	Lines 14-19 Summary: Reminiscing memories	Lines 20-24 Summary: Nature provided man with everything	Lines 1-3,7-9 Summary: Effects of modern-day humans to nature.
Elegy for Exaltacion	Lines 14-17 Summary: Reconnecting with nature	Lines 18-20 Summary: Usefulness of abandoned things	Lines 4-5 Summary: The messiness of weeds is nature's real beauty.

As shown in Table 1, the selected poems of Marjorie Evasco signify the three ecological laws of Commoner (1991), namely: 1) Everything is connected to everything else, 2) Everything must go somewhere, and 3) Nature knows best.

Everything is Connected to Everything Else

Jade Mountain Peak

1 *I have reached Jade Mountain peak*
2 *But the thatched cottage is empty.*
3 *Under the blossoming raintrees*
4 *The beaten grass path tells:*
5 *The master's familiar footfall*
6 *Is seeking another secret trail.*
7 *Quietly by the pond, I wait*
8 *And listen to the windsong*
9 *A strangles lute whispering*
10 *The long day away into evening.*

13 *Tonight, Jade Mountain is teaching me*

14 *The lesson of meaningful silence*

In a literal interpretation, lines 1 to 10,13, and 14 narrate the poet's experience reaching Jade Mountain Peak in Taiwan. It is considered the highest mountain peak in the country (Kao et al., 2002). It is a" must-visit" place for tourists. The poet describes the stillness of the mountain in Lines 2, 5, 6, 7, 9, 13 and 14. The words and phrases, "the thatched cottage is empty," "master's familiar footfall," "seeking another secret trail," "quietly," "lute whispering," and "teaching me the lesson of meaningful silence." These words also express how the poet contemplates the beauty of nature and the peace it gives to man. This is conveyed by the words, "Tonight, Jade Mountain is teaching me the lesson of meaningful silence." The poem signifies the relationship between man and nature, or as Commoner (1991) puts it, "Everything is connected with Everything Else." Humans are part of nature. But oftentimes, their actions have an unpleasant effect on the environment. Evasco's work is aligned with the environmental legislation such as the Ecological Solid Waste Management Act of 2000 which mandates about the procedures of using the important resources and embolden people of conserving the resources.

The Macrame- Bead Maker

11 *We are spiders at our ancient loom*
12 *Drawing tensile threads to be.*
13 *But when time again moves round*
14 *We come to where we first began.*
15 *We knot complete life's circled charm:*
16 *And all our beads, our pieces of string*
17 *Are laced in symmetry.*

These lines describe the poet's observation as the Macrame-Bead Maker makes a necklace. In figurative interpretation, the poet describes how humans relate to nature in lines 11, 12, 15, 16, and 17 in the sense that we are compared in the poem to spiders, where we make and decide for our lives. The words and phrases, "we are spiders at our ancient loom," "drawing tensile threads," "knot complete life's circled charm," "all our beads, our pieces of string," and "are laced in symmetry." These words and phrases express that men are the ones making their own identity and that they are making nature part of it. It is understanding everything that nature offers, what it consists of, and even those unpleasant parts. Until such time, men return to where they come from, which is ash; this makes man complete the life cycle. Everything that is connected to humans balances it. Everything has its role and shares the same experience of existence with humans, affecting every being. Every human experience with nature affects one's emotions and attitudes toward it. The poem signifies the relationship between man and nature, or as Commoner (1991) puts it, "Everything is connected with Everything Else. "Evasco's work is aligned with the environmental legislation Republic Act 6969. If humans want to live in a sustainable environment, they need to maintain the balance in it by conserving the natural resources.

Scaling Jade Mountain

1 *Overtaken by mist*
2 *A moss-covered rock I take*
3 *And lay my head upon.*
4 *The half-way climb*
5 *Has brought me here*
6 *Where willows sing*
7 *A plaintive lullaby*
8 *And dewdrops taste*
9 *Of orange-blossom nectar*
10 *In a golden cup.*
11 *After this restful interlude*
12 *I will climb*
13 *Jade Mountain's other half.*
14 *Should I find you are not there,*

15 *I will stand the summit air*
16 *And breathe to you*
17 *A wistful song of waiting.*

In a literal interpretation, these lines narrate the poet's experience in climbing Jade Mountain. Lines 1 to 17 say that humans are connected to nature in a manner that a human spends time with nature. The poet expresses the difficulty in reaching Jade Mountain in lines 1 to 2. The words and or phrases "overtaken by mist" and moss-covered rock" clearly state the mountain's difficulty. Despite all these, the poet is determined to continue his journey. A love for nature develops one's responsibility to care for it. The words and or phrases in lines 6 and 8," willows sing" and "dewdrops taste," show that humans learn to appreciate every part of nature, like birds singing and honey. Man feels, connects, and understands every part of nature that makes man complete. Man is a steward who helps nature maintain its natural cycle, which is why man will remain connected to the environment for the rest of his life. Man establishes a connection with the natural world. The poem signifies the relationship between man and nature, or as Commoner (1991) puts it, "Everything is connected with Everything Else." This is also in line with ecological legislation, Republic Act 6969. Humans need to take action to preserve nature because every little thing affects the environmental balance.

Sampaguita Song

14 *You thrust brown hands at me*
15 *Flower-laden, smelling like old*
16 *Memories, tender at the recall*
17 *Of gardens in a province*
18 *We have left*
19 *And miss.*

In a literal interpretation, these lines narrate the poet's experience seeing a Sampaguita vendor along the highway and how these sampaguita flowers connect with her memories. The poet describes how she remembers her life in the province in lines 15, 16, and 17. The words and or phrases "smelling like old," "memories, tender at the recall," and "gardens in the province." These words also express that man's connection with nature. When she smells the flowers carried by the vendor, she recalls their garden in the province where they previously lived. The smell of the white flowers or sampaguita flowers brings happy memories that have a great part of her during her childhood. It is where the human appreciates every color and shape that surrounds her. It is like a time capsule that takes her back to her previous years. Evasco takes nature as its subject when creating the poem. The poem answers the effect of modern-day human civilization, where places are converted into metropolitan areas. The poem signifies the relationship between man and nature, or as Commoner (1991) puts it, "Everything is connected with Everything Else." Evasco's work is aligned with the ecological legislation Republic Act 7586 that states to protect areas to guarantee the survival of all living things.

Elegy for Exaltacion

14 *I would have to walk the breadth*
15 *Of this forsaken land*
16 *And turn the earth with my bare hands*
17 *To find what else remains.*

In a literal interpretation, these lines express man's connection with nature through reflecting, walking, and feeling it. The words and or phrases "walk the breadth" and" turn the earth with my bare hands" in lines 14 and 16 tell that she walks on the land as if her feet are connecting with the earth with every step she makes as she walks. The poet expresses that it is one way of reminding man to slow down and re-establish the connection with nature. She remembers the memories left in the wide area by digging the land with her bare hands. She feels her living connection with nature. It is the land where her grandmother lived. It was simply with nature, and although the land was forgotten and abandoned for a time, she returned to find her grandmother's remaining properties. This poem asserts the idea of the greater concern of fellow creatures, which is the right to live. The poem signifies the

relationship between man and nature, or as Commoner (1991) puts it, "Everything is connected with Everything Else." This is also aligned with the ecological legislation Republic Act 7586 that mandates the protection and ensures the survival of native plants, landscapes, and other resources.

These findings are supported by Love (2010), who states that humans are equivalent to everything else in the common world. This means nothing is superior to anything else; instead, they all have equal rights to live and share the same experience of existence. Moreover, Allred supports these findings by stating that opposite things are interconnected, not opposing forces, just like humans are connected to water. It means that one element could not exist without the presence of the other elements.

Everything Must Go Somewhere

Jade Mountain Peak

11 *Inside, I light the lamp*
12 *And cook a simple meal.*

In a literal interpretation, lines 11 to 12 express that everything used and consumed by humans has a place on earth when it goes back to nature. It means nothing is wasted if it is used properly. The words and or phrases "I light the lamp" and "cook a simple meal" mean a simple way of living. It is not an extravagant meal. It costs less and cannot greatly harm the environment. It is a simple way of living in nature's way. A lamp provides light that does not give harsh glare. It is also a way for man to help save the earth's resources by not using electricity, which cuts down the use of utilities. Aside from that, lighting the lamp produces carbon dioxide, which is important for the photosynthesis of plants. The poet expresses that the simple way of living can help people avoid the backfire of the environment. It clearly describes how people are affected by their actions. The food we prepare for every meal comes from the earth's resources. We take this from the earth, process it, use it, and reuse and recycle it. Everything that surrounds us has its usage in nature. The poem signifies that everything used and consumed by man has a place in nature when it is no longer functional to man, or Commoner (1991) puts it in these words, "Everything Must Go Somewhere." This aligns with the Ecological Solid Waste Management Act of 2000, which aims to promote and manage solid waste. This means to reduce, reuse, and recycle. As much as possible, humans need to live by nature in order to maintain its natural function.

The Macrame-Bead Maker

1 *Some pieces of string from an old chinese shop*
2 *And multi-colored beads from the sea*
3 *Lie scattered at your lap*
4 *Ready for weaving a necklace for me.*
5 *First you tie a single knot*
6 *And the following strands entwine*
7 *As mind and hands form definite*
8 *An ancient tribal design.*

In a literal interpretation, lines 1 to 8 of the poem unfold the idea that everything in nature can be used and recycled. This is precisely aligned with the Ecological Solid Waste Management Act of 2000, which aims to lessen waste by recycling and reusing it. It all exists because it has its purpose and usage. The words and or phrases "some pieces of string from an old Chinese shop," "multi-colored beads from the sea," and "ready for weaving a necklace" also mean that gifts of nature do not only give life and color to sea but to give people livelihood through making jewelry like a necklace; but people should always remember that all these gifts of nature have limitations. They cannot continue to make a profit out of it unless they take good care of Mother Nature. The poet expresses that it is man's imagination to make a design that will fascinate and catch other people's attention. Nature has provided us with everything we need, but our great responsibility is to care for and preserve it. The poem signifies that nature provided man with everything they needed, and it is man's responsibility to put it in a proper place after using it. Commoner (1991) puts it in these words: "Everything Must Go Somewhere."

Scaling Jade Mountain

8 *And dewdrops taste*
9 *Of orange-blossom nectar*
10 *In a golden cup.*

In literal interpretation, lines 8 to 10 of the poem express that everything in nature has its utilization. The words and or phrases in lines 8 to 9, "dewdrops taste" and "orange-blossom nectar," also mean the abundance of honey that can be seen along the way. The poet shows that honey is a natural medicine or source of food for both man and animals. Everything that can be seen in nature has its usage and purpose, but too much use can destroy its natural cycle and may hinder its production. People live in a home where life exists, and anyone wishing to live on this planet must fit into the environment. The poem signifies that nature provided man with everything they needed, and man is responsible for taking care of it. This aligns with the ecological legislation Republic Act 7586, which aims to protect and conserve the environment and its biodiversity. Commoner (1991) puts it in these words, "Everything Must Go Somewhere."

Sampaguita Song

20 *Back home the sampaguitas*
21 *dry in an earthen dish*
22 *leaving the scent of warm*
23 *brown palms that offered an extra garland for*
24 *Bueno Mano.*

In a literal interpretation, these lines tell of the poet's simple life in the province. It is when man's life is not yet controlled by technology. The poet specifies the simplicity of living in lines 20, 21, 22, and 23. The words and or phrases "back home the sampaguitas," "earthen dish," "leaving the scent of warm," and "brown palms that offered an extra garland" also mean they use the earth's resources in making a living. The natural scent of the flowers gives a relaxing aroma to their place. These flowers also gave them extra income, a resource for the people. Nature has provided us with everything that we need. We cannot live without nature and vice versa, but we should always remember that nature needs us to look after it. We should not abuse its natural resources because everything has its limitations. This is in line with the ecological legislation Republic Act 7586, which states that places should be protected to maintain the ecological process and life-support system. Our earth is a restricted world. The poem signifies that nature provided man with everything they needed and that man must look after it because they are only the steward of this beautiful planet. As Commoner (1991) puts it in these words, "Everything Must Go Somewhere."

Elegy for Exaltacion

18 *The linens are moth-eaten,*
19 *The weevils bore through the posts,*
20 *The woodwork and the stored grain.*

In a literal interpretation, the poets express that nothing is created without purpose in lines 18 to 19. The words and or phrases "linens are moth-eaten" and "weevils bore through the posts" likewise suggest that abandoning things does not mean it is no longer useful. Things that are decomposable are either eaten or converted into other usable things. It could mean shelter or food for other forms of life in nature, just like the weevils that make holes through the post and another part of the cottage made of wood, making it their home or source of food. Stored grains are good sources of food for insects. Evasco's work agrees with Pope Benedict's idea in Koenig-Bricker (2009), where he speaks out for creation and justice, which people can use but remember not to abuse. It means

that people oversee the gifts of God to develop and care for them. People can use it but should also consider its responsibilities in every action. The poem signifies that man is provided with abundant gifts from nature. A man should consider his importance in maintaining the balance of nature, or as Commoner (1991) puts it, "Everything Must Go Somewhere."

Nature Knows Best

Jade Mountain Peak

3 *Under the blossoming raintrees*
4 *The beaten grass path tells:*
5 *The master's familiar footfall*
6 *Is seeking another secret trail.*

13 *Tonight, Jade Mountain is teaching me*
14 *The lesson of meaningful silence.*

In a figurative interpretation, lines 3 to 6, 13, and 14 express that nature has provided man with all he needs. It is one's discretion to do what is needed and right to preserve nature's gifts. The poet describes how fortunate man is in lines 3, 4, and 13 because nature provides everyone with everything. The words and or phrases "blossoming rain trees," "beaten grass," and "Jade Mountain is teaching me" also mean that man has everything. The natural assets give man the chance to enjoy the earth's beauty. It gives man the chance to feel the natural cooling temperature. In the wilderness, where wild plants grow and grasses stand tall, it looks messy, making nature beautiful and unique. It still possesses its natural cycle, and when man connects with nature, it can tell man's needs and emotions. However, man's activity causes the untimely deterioration of the grass. A man should learn to recognize nature's beautiful abilities and limits. Jade Mountain is teaching man the meaning of silence. One can learn that even in silence, there is still meaning. Nature has always tried to connect with man, but man is blinded by the ways of living in the modern world. Man needs to re-establish the connection with nature through listening in deep silence because nature knows best. Nature is a place outside the modern world where people feel relaxed and well. Man needs to follow the laws of nature because we depend on them, and nature is our life support system.

The findings of Evasco's work are similar to those of Rueckert (1996), who states that the outcomes of human activities harm the planet's fundamental life and emotionally supportive networks. Moreover, nature has maintained its mysterious power and does miracles that sometimes cannot be explained by man. The poem signifies that nature is the master. Nature knows what is best for man. Everybody needs nature to survive. Without it, one is weak, or Commoner (1991) puts it in these words, "Nature knows best."

The Macrame-Bead Maker

2 *And multi-colored beads from the sea*
3 *Lie scattered at your lap*
4 *Ready for weaving a necklace for me.*

In a figurative interpretation, lines 2 to 4 of the poem narrate the abundance of nature. Everything in nature has its value that man needs to recognize. The poet illustrates that nature knows what is best for man in lines 2 and 4. The words and phrases "multi-colored beads from the sea" and "ready for weaving" talk about nature's ability to provide man with everything that can help us survive, like the richness of pearls from the sea. These could be a source of income for man, but too much use can harm nature's ecosystem. A man should utilize his natural resources but with limitations. Nature gives its natural elements for free and, in the same way, teaches man its role, place, and proper manner in dealing with nature. The poem signifies that nature provided man with enough resources, but one must limit its usage and not disturb nature's normal cycle. Commoner (1991) puts it in these words, "Nature knows best." Evasco's work is aligned with the Philippine Clean Water Act of 2004, which aims to protect and conserve water resources. Humans must learn to limit its usage to allow future generations to enjoy freshwater and marine wealth.

Scaling Jade Mountain

1 *Overtaken by mist*
2 *A moss-covered rock I take*
3 *And lay my head upon.*
4 *The half-way climb*
5 *Has brought me here*
6 *Where willows sing*
7 *A plaintive lullaby*
8 *And dewdrops taste*
9 *Of orange-blossom nectar*
10 *In a golden cup.*
11 *After this restful interlude*
12 *I will climb*
13 *Jade Mountain's other half.*
14 *Should I find you are not there,*
15 *I will stand at the summit air*
16 *And breathe to you*
17 *A wistful song of waiting.*

The third ecological law nature knows best is expressed in Lines 1 to 17 of the poem. In a literal interpretation, the poet's experience utilizing and appreciating nature's gifts, like listening to a bird's song, the taste of honey, and the airman breathing. Nature includes all life forms and their places, like a moss-covered rock in the poem. Life on the rock may not be visible to our naked eyes, but other creatures exist and have a role in the ecosystem. The poet expresses that man is part of nature's existence; man must take care of the gifts given by nature. It is time for man to give back to nature by protecting and preserving it.

In a figurative interpretation, the words and or phrases in lines 15 to 17, "I will stand the summit air," "breathe to you," and "wistful song of waiting," also mean man learns to hope and wait for the right moment. Hopefully, man still has the chance to do what is good for humanity and the environment. The poem shows that human activities have been damaging nature's natural processes. For this, man should change lifestyles, or as Commoner (1991) puts it, "Nature knows best." Evasco's work is aligned with the environmental legislation Republic Act 7586, which maintains biodiversity and ensures the sustainable use of natural resources. Humans must act now and avoid damaging the environment like deforestation because what we have now is given freely by Mother Nature.

Sampaguita Song

1 We see you every night intercept
2 The narrow chance at highway
3 Living the jammed traffic of your days
7 Your shanks gleam thin at the intersection,
8 Beating the stop light to the edge
9 Of danger.

In a literal interpretation, lines 1 to 3 and 7 to 9 of the poem narrate the poet's experience of seeing a Sampaguita vendor crossing the road. The poet describes the danger of selling flowers in lines 1, 2, 3, 8, and 9. The words and or phrases "we see you every night intercept," "narrow chance at the highway," "jammed traffic," "beating the stop light to the edge," and "danger" means the highway or road where the vendor usually stays to sell the flowers is a busy and dangerous place because of the vehicles that keep on passing from one direction to the other direction. The vendor should keep his phase with the traffic lights so that he does not get hit by the vehicles. Further, it talks about how modern-day humans change a certain place. This has resulted in a narrow road and

traffic. Mankind's activities and lifestyles may improve the economic situation of a country, but this, in turn, would damage the ecosystem and may cause harm and extinction to humans and other creatures. Developing metropolises should also have a simple lifestyle, like in many provinces, which would help nature maintain its sensitive balance. Evasco's work is aligned with the Philippine Environmental Impact Statement System Presidential Decree No. 1586, which states that all environmentally critical initiatives have the potential to have a major negative impact on the environment. The poem signifies the effects of modern-day activities on the people in a certain place. This place has changed due to the emergence of technology. Modern technology still cannot replace the convenience that nature can give to people; it provides free services like water, air, and a wide place to stay. Commoner (1991) puts it in these words: "Nature knows best."

Elegy for Exaltacion

4 *With garden up front, unkempt,*
5 *The weeds everywhere bristling.*

In a literal interpretation, lines 4 to 5 of the poem speak of the wilderness of the place. The poet describes how untidy the area is in lines 4 and 5. The words and or phrases "unkempt" and "weeds everywhere bristling" mean that man may not appreciate its untidy appearance, but it is where the true beauty of nature exists. Weeds may not have value to people, but they play a role in maintaining the ecosystem's natural balance. This aligns with the environmental legislation Republic Act 7586, which aims to protect areas to keep their biodiversity and secure a renewable use of resources. Commoner (2015) supports these findings in the third ecological law, which states that people have broken out of the circle of life. Endless cycles have been converted into man-made, like cities sprawling in many areas that disturb the natural cycle of nature. The analysis of Marjorie Evasco's poems reflects Commoner's (1991) three ecological laws. Indeed, it is an ecopoetry.

3.2 Ways Ecological Laws are Presented in the Select Poems of Marjorie Evasco

The second phase examines how Commoner's three ecological laws are presented in the poems (see Table 2), signified in the poems' different lines.

Table 2. Ways how Commoner's three of the four ecological laws are reflected in the select poems of Marjorie Evasco

Poem	Everything Is Connected to Everything Else		Everything Must Go Somewhere		Nature Knows Best	
	Literally	Figuratively	Literally	Figuratively	Literally	Figuratively
Jade Mountain Peak		√	√			√
The Macrame-Bead Maker		√	√		√	
Scaling Jade Mountain		√	√			√
Sampaguita Song		√	√			√
Elegy for Exaltacion	√		√		√	

Everything is Connected to Everything Else

Jade Mountain Peak

4 *The beaten grass path tells:*
8 *And listen to the windsong*
9 *A strangles lute whispering*
13 *Tonight, Jade Mountain is teaching me*

Table 2 shows that the first ecological law is presented figuratively in lines 4, 9, and 13. The poet uses personification in lines 4, 8, 9, and 13, giving human attributes to the words and phrases," beaten grass path tells," "wind song," a strangles lute whispering," and "Jade Mountain is teaching me." The poet describes that the beaten grass path tells that the man is seeking another path. The man also listened to the Aeolian sound, which he considered a song. The sound that the wind produced is a song to the man. The lute is given a human characteristic that of a whisper. Moreover, Jade Mountain teaches the man the meaning of silence. Evasco's work is aligned with the environmental legislation Republic Act 7586, which requires nations to manage places to increase biological

variety and safeguard regions from damaging human use. In the hope of preserving and conserving natural resources, humans have to do what is expected of them to maintain a balance of nature. This affirms Commoner's (1991) view that humans need to accept and nourish nature while reducing their controlling behavior; instead, they need to participate in repairing the damage humans have done.

The Macrame-Bead Maker. Table 2 shows that the first ecological law is presented figuratively in line 11 of the poem "The Macrame-Bead Maker." This line says, "We are spiders at our ancient loom." This line shows that man is compared to spiders. The poet uses a metaphor that describes man as a spider that makes its own home, the one making its destiny and identity. Everything that happens to a man is interconnected, like the spider web, and each strand is essential. The absence of one strand imbalances the whole web. Every event that happens to a man is connected to another event, which makes the man a better person. Man is a painter of his life. It is up to him to use what color he likes. This affirms Commoner's (1991) view that an ecosphere has a mutual interrelationship between one life and another. That is the reason for the presence of spiders on the planet. They are alive to teach man that everything is as important as man. Man cannot live alone in the ecosphere. Foster (2005) stated that the ecosystem is composed of different systems that are complicated and interconnected. This interrelation also means the whole system may experience devastation under utmost tension.

Scaling Jade Mountain. Table 2 shows that the first ecological law is presented figuratively in line 6 of the poem "Scaling Jade Mountain." This line says,

6 *Where willows sing*
17 *A wistful song of waiting*

The poet uses personification to give human characteristics to the trees called willows, which sing a plaintive lullaby. The trees are trying to communicate with humans in a way that the movement of the branches produces a sad song. It tells the people that its natural process is disturbed by the people who hike and climb the mountain. Jade Mountain wants to preserve its forests and the other creatures present in the place. More than that, nature is giving man the hope in waiting. It teaches man to be patient and that people can reconnect to nature and do what is good for everyone because nature provides man with everything they needs. This affirms Commoner's (1991) view that hope is in the poem. It teaches man to hope regardless of the environmental crisis. Man is destroying the natural community for this; ecologists have agreed that humans and nature can exist, collaborate, and be plentiful in the biosphere.

Sampaguita Song. Table 2 shows that the first ecological law is presented figuratively in lines 15 and 16 of the poem "Sampaguita Song." These lines say,

15 *Flower-laden, smelling like old*
16 *Memories, tender at the recall*

These lines illustrate how a flower is compared to old memories. The writer uses a simile to compare the flower and the old memories. The flower is compared to old memories with a great part of the persona. There is a connection between the persona and the flower that reminds him of the life he had in the province. Moreover, every creature on this planet has the right to live and not be disturbed by humans. This implies that flowers, like other living things, have the right to stay where they belong. This affirms Watson's (1983) idea that mankind should not abuse their power over other creatures. They need to consider that birds, flowers, trees, and other individual species have a right to live, not to be disturbed or destroyed, and to be with other species.

Elegy for Exaltacion. Table 2 shows that the first ecological law is presented literally in lines 14 to 17 of the poem "Elegy for Exaltacion." These lines say,

14 *I would have to walk the breadth*
15 *Of this forsaken land*
16 *And turn the earth with my bare hands*
17 *To find what else remains.*

These lines describe how the persona walks across a wide land area and finds what else remains. The poet describes how the persona turns the soil with his bare hands, literally describing how the man reconnects with nature. This confirms Commoner's (1991) view that humans need to help even the smallest thing that is part of the whole system. Man needs to protect nature by making laws as part of an ecological vision that focuses on the rights of every creature.

Everything Must Go Somewhere

Jade Mountain Peak. Table 2 shows that the second ecological law is presented literally in lines 11 to 12 of the poem "Jade Mountain Peak." These lines say,

11 *Inside, I light the lamp*
12 *And cook a simple meal.*

The poet describes what the man lighted inside the cottage and the kind of meal he cooks for dinner. The man lighted a lamp that will give enough brightness inside the cottage while waiting for the night to pass, and the word "simple" means the man prepares a meal that is not costly. This affirms Button's view in How to Be Green that even a small action is what the environment needs to help regain its natural system. It re-examines man's role and responsibility in transforming nature back to its original natural process.

The Macrame-Bead Maker. Table 2 shows that the second ecological law is presented literally in lines 1 to 4 of the poem "The Macrame-Bead Maker." These lines say,

1 *Some pieces of string from an old chinese shop*
2 *And multi-colored beads from the sea*
3 *Lie scattered at your lap*
4 *Ready for weaving a necklace for me.*

These lines signify the importance of recycling. The poet describes in lines 1, 2, and 4 how pieces of string from an old Chinese shop and pearls of different colors from the sea are used to make a necklace. Nothing is wasted because things are reused and formed into other beautiful creations. This affirms Button's view that humans must consider every action they take toward the environment to avoid living in a chain reaction. Humans must live responsibly.

Scaling Jade Mountain. Table 2 shows that the second ecological law is presented literally in lines 8 to 10 of the poem "Scaling Jade Mountain." These lines say,

8 *And dewdrops taste*
9 *Of orange-blossom nectar*
10 *In a golden cup.*

These lines tell the richness of nature. The poet describes in lines 8 to 10 one of nature's free services to man. The juice of fruits and the secretion of plants that attract insects are made into honey. Everything extracted from something out of their abundance will serve as a source of food and life for other creatures. Everything is preserved and recycled in nature. It also shows that man can get honey from nature, considering responsibilities in every action. Everything that is in nature has its purpose, which will be of great help to the ecosystem. This affirms Foster's (2005) view that there are no neglected things in nature. Each has its usage when other living organisms excrete it.

Sampaguita Song. Table 2 shows that the second ecological law is presented literally in lines 20 to 24 of the poem "Sampaguita Song." These lines say,

20 *Back home the sampaguitas*

21 *dry in an earthen dish*
22 *leaving the scent of warm*
23 *brown palms that offered an extra garland for*
24 *Bueno Mano.*

These lines tell how the sampaguita in their province is used. The poet describes how they make a profit from selling it. The words and or phrases "offered an extra garland" and "buena mano" mean that flowers are not only for decorations but also for a living. They can help people make a decent livelihood. However, if people focus only on making money from the free services offered by nature, this destroys the species. This affirms Commoner's (1991) idea that the free market is one of the causes of the environmental crisis. People only think of the wealth they can get from nature, setting aside its unfavorable effect on everyone.

Elegy for Exaltacion. Table 2 shows that the second ecological law is presented literally in lines 18 to 20 of the poem "Elegy for Exaltacion." These lines say,

18 *The linens are moth eaten,*
19 *The weevils bore through the posts,*
20 *The woodwork and the stored grain.*

These lines signify that everything has a place in the environment. An object needs another object to balance the natural process of nature. The words and or phrases "linens are moth-eaten" and "weevils bore through the posts" also mean that the moths eat the cloth, the weevils perforated the wooden posts, other parts of the cottage like the window, and the stored grains that have been forgotten. It also means that many natural resources, such as grains, are extracted from the environment. It reaches the point that the stock is left without thinking about how to use it. This affirms the view of Baxter and Bruce (2008) that the more commodities are extracted from nature, the more it reduces natural supplies. It simply means that everything will return to nature, and nature processes things to be useful again. However, with too much trash, nature cannot process it all for decomposing, resulting in piling up trash in the environment.

Nature Knows Best

Jade Mountain Peak. Table 2 shows that the third ecological law is presented figuratively in lines 3 to 6 and 13 to 14 of the poem "Jade Mountain Peak." These lines say,

3 *Under the blossoming raintrees*
4 *The beaten grass path tells:*
5 *The master's familiar footfall*
6 *Is seeking another secret trail.*
13 *Tonight, Jade Mountain is teaching me*
14 *The lesson of meaningful silence.*

These lines illustrate that nature knows exactly what is good for the ecosystem. The words and or phrases "blossoming raintree," "beaten grass path says," "Jade Mountain is teaching," and "lesson of meaningful silence" also mean that nature gives man complete things, and man must care for and preserve it. Nature has been beautiful since the day the planet God created Earth. Jade Mountain is compared to a man who teaches man the meaning of silence. It is not just the stillness, but it also means peace. This affirms Johnson's (1991) view that, millions of years ago, nature was thoroughly fascinating. It does not need any improvement (np).

The Macrame-Bead Maker. Table 2 shows that the third ecological law is presented literally in lines 2 to 4 of the poem "The Macrame-Bead Maker." These lines say,

2 *And multi-colored beads from the sea*
3 *Lie scattered at your lap*
4 *Ready for weaving a necklace for me.*

These lines indicate that man improves what is provided by nature. The poet describes how pearls are used to make necklaces. The words and or phrases “multi-colored beads from the sea” and “weaving a necklace” mean that nature has provided mankind with everything, such as the multi-colored beads. Nature knows what to provide people with everything they need for survival. For example, these beads or pearls can be a source of livelihood for people, but people should never forget that everything has limitations. People should not take anything for granted because it will not always be available. This affirms Markowitz's (2018) idea that mankind knows the results of its actions. Any man-made improvements in nature may adversely affect the whole planet.

Scaling Jade Mountain. Table 2 shows that the third ecological law is presented figuratively in lines 1 to 17 of the poem “Scaling Jade Mountain.” These lines say,

1 *Overtaken by mist*
2 *A moss-covered rock I take*
3 *And lay my head upon.*
4 *The half-way climb*
5 *Has brought me here*
6 *Where willows sing*
7 *A plaintive lullaby*
8 *And dewdrops taste*
9 *Of orange-blossom nectar*
10 *In a golden cup.*
11 *After this restful interlude*
12 *I will climb*
13 *Jade Mountain’s other half.*
14 *Should I find you are not there,*
15 *I will stand the summit air*
16 *And breathe to you*
17 *A wistful song of waiting.*

These lines narrate the importance of nature in a person's life. Nature could create new life. The poet describes how the person strives hard to reach the mountain. The words and or phrases “breathe to you” and “a wistful song of waiting” also mean that nature mends the missing part of a person’s life. Nature has remained inexplicable and is the foremost important thing on the planet to help other living things survive. This affirms Naess' (1984) idea that humankind should behave ecologically because it is vital for human survival. Nature is life for all humanity.

Sampaguita Song. Table 2 shows that the third ecological law is presented figuratively in lines 1 to 3 and 7 to 9 of the poem “Sampaguita Song.” These lines say,

1 *We see you every night intercept*
2 *The narrow chance at highway*
3 *Living the jammed traffic of your days*
7 *Your shanks gleam thin at the intersection,*
8 *Beating the stop light to the edge*
9 *Of danger.*

These lines signify the effects of modern human activities on the environment. It describes where it is developed into an urban area, such as roads that have been constructed and people experiencing traffic jams. These transformations bring economic progress to a certain place but also have their downside. It can bring people danger and hamper the normal cycle of nature. This affirms Foster’s (2005) view that people’s recreation of improving the economy affects the main life situation on earth because of one’s interest and exclusive control of the market. The change made by man is dangerous to the whole natural system because it affects the natural process of nature.

Elegy for Exaltacion. Table 2 shows that the third ecological law is presented literally in lines 4 to 5 of the poem "Elegy for Exaltacion." These lines say,

4 *With garden up front, unkempt,*
5 *The weeds everywhere bristling.*

These lines show the messiness of the place. It talks about the untidy garden and the weeds that are growing everywhere. Looking at this at first glance, it is messy, and we can conclude that nature is forgotten. However, this messiness is what makes nature unique and undisturbed by people. In this way, nature can slowly heal its wounded parts and return to its original natural process. In agreement with Rueckert (1996), the findings also show that human culture is associated with the physical world, influencing and being influenced by it. It means that whatever habits and activities the people do in a certain community will influence nature, and in turn, people will also be influenced by it.

Coupe's idea (2000) concerns the larger question of justice, of the rights of our fellow creatures, of forests and rivers, and ultimately to the biosphere itself. According to the findings, all creatures can enjoy what nature bestows for everyone, like the poems' beaten grass, weevils, willows, flowers, and weeds. These creatures have the right to experience and live in the biosphere. Table 2 reveals that the first ecological law is conferred figuratively in the following poems: Jade Mountain Peak, The Macrame-Bead Maker, Scaling Jade Mountain, and Sampaguita Song. The second ecological law is presented literally in the five select poems. The third ecological law is shown figuratively in Jade Mountain Peak, Scaling Jade Mountain, and Sampaguita Song.

3.3 Marjorie Evasco's Concept of Ecology

The third phase involves analyzing Commoner's three of the four ecological laws presented in the poems and Marjorie Evasco's concept of ecology.

Table 3. Analysis of the ecological laws presented in the poems and Marjorie Evasco's concept of ecology

Poem	Ecological Laws	Evasco's Concept of Ecology
Jade Mountain Peak	Everything is Connected to Everything Else Everything Must Go Somewhere Nature Knows Best	Nature as the teacher.
The Macrame-Bead Maker	Everything is Connected to Everything Else Everything Must Go Somewhere Nature Knows Best	Nature is Life.
Scaling Jade Mountain	Everything is Connected to Everything Else Everything Must Go Somewhere Nature Knows Best	There is hope in nature.
Sampaguita Song	Everything is Connected to Everything Else Everything Must Go Somewhere Nature Knows Best	The conflict between nature and modernization.
Elegy for Exaltacion	Everything is Connected to Everything Else Everything Must Go Somewhere Nature Knows Best	Human behaviors affect nature.

Jade Mountain Peak

The first poem focuses mainly on the idea of nature as the teacher. It means that nature teaches humans to be humane to their fellow creatures. Mankind is not created to be superior to its fellow creations, but it exists to care for and preserve what God has given them. In nature, man learns to appreciate every little thing in the environment. It is accepted that human beings learn by interacting with their environment, through which man learns the lesson of their actions and decisions. As stated by Gallo (2014), nature becomes our teacher in a way that there are several situations in our lives that we struggle with, and by just looking and reflecting on the rapid flow of the river followed by smoothed glides and see that every hard point in life will pass. When we forget that life is wealth, we look at fruit trees to bear fruits and provide us with food. These simple ways of nature teach people to live and love life.

The Macrame-Bead Maker

The second poem presents the idea that nature is life. This means that people's lives depend on nature. There would be no great civilization on this planet if there were no nature because it is the source of life for all living things. Nature has provided human civilizations everything they need to live and survive, like water, air, and food. In agreement with the idea presented by Gallo (2014), humans are inseparable from nature. Man needs clean air to breathe, fertile soils to produce nutritious foods, and water to drink.

Scaling Jade Mountain

In the third poem, it is revealed that Evasco's idea is that there is hope in nature. The implication is that nature gives people hope in their chaotic world. People nowadays are busy coping and making life in the modern world. We do not want to waste any minute because if it happens, we are one day behind others. In this case, one is burnt out. Our body, mind, and soul also need time to recharge; connecting and spending time with Mother Nature is a way of recharging. People realize that everything is capable of remarkable things. In the poem, the persona overcomes the difficulty of climbing the mountain. He is persistent and determined to reach the top of the mountain even if he encounters obstructions, like low visibility due to mist and the slippery way caused by the moss-covered rock. Even if it causes everything and he finds out that there is nothing on top of the mountain, he still waits and hopes for a change that helps nature. In nature, people can find many signs of hope on our planet. Prowse (2015) cites examples where even the scrap things people created still hope to improve the planet. For example, refused vegetables, eggshells, and leaves are converted into rich nutrients that feed and help build the topsoil. Despite people's deeds of destroying nature, it continues to thrive even in the tiny cracks, like the great life force in tree roots that cracks parking lots, roads, and establishments. This is a sign of God's grace and hope that people have the chance to explore and affirm our connections with nature.

Sampaguita Song

This literary piece focuses on the idea of conflict between nature and modernization. Inventions are created to make people's lives comfortable. New lifestyles are sprouting, and people have many things to choose from to make them comfortable, such as wide railways for transportation, but such construction also has a downside. It destroys areas that could be a place for trees and flowers to grow and animals to live. People have altered the state of the natural system through different activities like converting natural habitats into cities. The effect of modernization on the environment is complicated. It is visible in every aspect of human life, from a place of forestry to agricultural areas, from food to industry. Nature has completely changed in the modern era through modernization. Even though people conveniently live in the modern world, our environment is heavily affected and getting worse daily. The reshaping of nature is dangerous because it affects the ecological goods and services provided by nature to us. If this happens, nature and its ecological services will be degraded. Indeed, it is our responsibility to restore nature's natural process.

Elegy for Exaltacion

This focuses on the idea of how human behavior affects nature. It reflects on how people have affected nature through their actions and choices. If not treated early, people lose the chance to bring back the natural process of nature. For example, the persona can no longer mend the broken pots in the poem. Figuratively, these broken pots mean the place where, once a natural habitat, nature rules on its own. However, due to human disturbance, it degrades. Human behavior can make great changes to the environment. Lee states that human behavior positively and negatively affects the ecosystem. It further states that the negative behavior of energy consumption has a closer influence on the ecosystem than the positive behavior of environmental protection. With this, people need to reduce the negative activities that will affect the environment. To summarize, Marjorie Evasco presents different concepts of ecology in each poem. In Jade Mountain Peak, nature is viewed as the teacher; in The Macrame-Bead Maker, nature is life; in Scaling Jade Mountain, the concept of ecology is that there is hope in nature; in Sampaguita Song, the idea of ecology is that there is conflict between nature and modernization; and in Elegy for Exaltacion, human behaviors affect nature.

4.0 Conclusion

The select poems of Marjorie Evasco eloquently reveal the intrinsic values of nature. Through the lens of ecocriticism, it is demonstrated that each of Evasco's five poems embodies Commoner's (1991) three ecological laws: "Everything is Connected to Everything Else," "Everything Must Go Somewhere," and "Nature Knows Best." These poems underscore ecological systems' interconnectedness and cyclical nature and highlight the natural world's inherent wisdom and self-regulating principles. Furthermore, Evasco's poetry vividly illustrates the

beauty and significance of nature, inviting readers to appreciate and reflect on the vital role that the environment plays in our lives. This study thus affirms the profound ecological insights embedded in Evasco's work, emphasizing the need for greater environmental awareness and stewardship. Future research could delve deeper into the specific poetic techniques Evasco employs to convey these ecological themes, point out the Commoner's fourth ecological law, and explore the broader implications of her work within the context of contemporary environmental literature and feminism.

5.0 Contributions of Authors

Eileen Joy D. Sarita, the author, choose Marjorie Evasco's select poems: "Jade Mountain Peak", The Macrame-Bead Maker", Scaling Jade Mountain", " Sampaguita Song", and "Elegy For Exaltacion" as the focus of this study and to examine it through ecocritical analysis that investigates the reflection of the Commoner's three of the four Ecological Laws. The data analysis of the select poems, the revision of the manuscript and the encoding is solely done by the author.

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7.0 Conflict of Interests

The author declares no conflict of interest.

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Nursing Students' Readiness, Attitude, and Performance in Face-to-Face Classes

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Abstract. This descriptive-correlational and causal study at Central Mindanao University, grounded in Lev Vygotsky's Social Learning Theory and the Health Belief Model, assessed the readiness, attitude, and academic performance of 115 nursing students in face-to-face classes using universal sampling. Findings indicate a high readiness level and positive attitudes toward face-to-face learning, correlating with moderately good academic performance. Notably, a significant negative correlation exists between readiness and performance, underscoring the importance of student preparedness in enhancing educational outcomes. These insights are crucial for educators and administrators in optimizing teaching strategies and integrating technological support to improve student success. Future research should investigate specific factors influencing academic achievements and develop targeted interventions to enhance learning experiences.

Keywords: Academic performance; Attitude; Nursing education; Readiness, Social learning theory.

1.0 Introduction

The global decline in COVID-19 infections has begun to reshape educational norms, particularly prompting a transition from online to face-to-face learning modalities. This shift, while necessary, has exposed significant challenges and opportunities within the realm of nursing education. For nearly two years, the enforced distancing necessitated by online learning platforms disrupted traditional educational interactions, leading to academic stress, learning saturation, and a decline in student enthusiasm and concentration. The benefits once touted by online learning systems fell short in nurturing the critical interactive and practical skills essential in nursing education.

As infection rates stabilize, educational policies in the Philippines are adapting, with Central Mindanao University following the Commission on Higher Education's (CHED) Memorandum Order No. 01, series of 2022, which allows limited face-to-face classes across various disciplines. This policy shift signifies a crucial phase in educational recovery, aiming to recuperate the academic hours and experiential learning lost to the pandemic (Azzi-Huck & Shmis, 2020). However, the readiness of students to re-engage in physical classrooms remains a pivotal concern. Research by Razzaque and Hamdan (2019) highlights that readiness is not just about logistical preparedness but also involves motivational and emotional aspects crucial for effective learning and academic resilience. Results from Satrianta et al. (2022) add further complexity, indicating varying readiness levels among students, with notable differences between genders. Such disparities necessitate a deeper exploration into the factors contributing to effective transition and readiness among nursing students. These insights are imperative to tailor educational strategies that address both the logistical and psychological needs of students.

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This study aimed to assess nursing students' readiness, attitudes, and academic performance at Central Mindanao University as they transition back to face-to-face learning environments. By integrating the theoretical underpinnings of Lev Vygotsky's Social Learning Theory with empirical evidence, this research sought to identify gaps in current educational practices and contribute to developing more effective teaching methodologies that ensured uniform learning preparation across student demographics. Ultimately, this research provided a framework for other institutions to enhance their educational practices in the post-pandemic landscape, ensuring that students are prepared logistically, emotionally, and motivationally equipped to thrive in face-to-face learning settings.

2.0 Methodology

2.1 Research Design

This study employed a descriptive-correlational and causal research design to evaluate nursing students' readiness, attitude, and academic performance. The descriptive component details student characteristics from online to face-to-face learning. Correlational analyses identified relationships between the independent variables (readiness and attitude) and the dependent (academic performance) variables. Causal investigations explored predictors of academic performance through controlled or quasi-experimental methods.

2.2 Research Locale

Research activities occurred at the College of Nursing, Central Mindanao University, Maramag, Bukidnon. Known for its comprehensive nursing education, the college provides well-equipped facilities, including advanced laboratories and extensive library resources.

2.3 Research Participants

The study focused on 115 third-year nursing students transitioning from online to face-to-face instruction. This specific group was chosen because they represent a critical demographic that has experienced significant shifts in learning modalities, providing valuable insights into the impact of these transitions on their academic performance and well-being. Universal sampling was employed in this study, which involves selecting all individuals from the population who meet the inclusion criteria. This approach was chosen due to the relatively small and manageable population size and the importance of obtaining a comprehensive understanding of the experiences of all third-year nursing students in this transition period.

2.4 Research Instruments

Data was collected using a structured "Nursing Student Learning Experience Questionnaire," adapted from Nkewe et al. (2021), which included ten constructs across two parts. Responses were measured on a Likert scale, ranging from "Strongly Agree" to "Strongly Disagree" for readiness and attitude, and academic performance was assessed from "Excellent" to "Very Low." Three expert professors validated the instruments and pilot-tested with 30 students. Reliability coefficients were robust, with a Cronbach's alpha of .939 for readiness and .964 for attitude.

2.5 Data Gathering Procedure

Upon receiving approval from the university's Institutional Ethics Committee (2023-09-0934-CON), data was collected by administering the questionnaire directly to participants. This process adhered strictly to ethical standards, ensuring informed consent, voluntary participation, and confidentiality of participant data. Data were analyzed using descriptive statistics for initial assessments of readiness and attitude. Pearson's correlation analysis was then applied to explore the relationships between readiness, attitude, and academic performance. GPA and examination scores were analyzed to assess academic performance.

2.6 Ethical Considerations

The study adhered to ethical guidelines approved by the Liceo de Cagayan University Institutional Ethics Committee, ensuring all participants understood the purpose of the research and the use of their data for study purposes only. Ethical standards regarding voluntary participation and data confidentiality were rigorously maintained throughout the research.

3.0 Results and Discussions

3.1 Readiness of Students for Face-To-Face Classes

Table 1 summarizes the results regarding readiness and its sub-variables among the participants. The indicators include Learning Environment, Knowledge Acquisition, Skill Development, and an overall mean readiness score.

Table 1. Result of the readiness and its sub-variables

Indicators	Mean	Descriptive Rating	Interpretation
Learning Environment	3.73	Agree	High
Knowledge Acquisition	3.68	Agree	High
Skill development	4.46	Agree	High
Overall Mean	**3.95**	**Agree**	**High**

The study reveals that nursing students' perceived readiness in various aspects of their education is highly influenced by their learning environment. A mean score of 3.73 indicates that the learning environment is conducive, positively impacting students' academic experiences and outcomes. A mean score of 3.68 indicates a high level of readiness to acquire knowledge, indicating confidence and preparedness for their educational journey. A high mean score of 4.46 indicates a strong consensus among participants about their significant preparedness in skill development, indicating a high level of readiness for both theoretical and practical aspects of their education. A mean score of 3.95 reflects a comprehensive and well-rounded preparedness, contributing to increased student satisfaction, engagement, and potentially improved academic performance.

The findings highlight the importance of a positive learning environment, effective knowledge acquisition, and skill development in nursing education. The study's multifaceted approach to readiness, considering both theoretical and practical aspects, supports the notion that a holistic approach contributes to a high level of overall readiness among nursing students. The results provide quantitative support for the positive perceptions and high readiness levels observed across various dimensions of the nursing education experience. Aiken et al. (2020) and Khatiban and Sangestani (2019) emphasize the importance of a conducive learning environment in nursing education. Aiken et al.'s study found that well-structured, supportive, and inclusive educational settings significantly enhance student satisfaction and academic success. Khatiban and Sangestani's research also highlights the link between knowledge acquisition readiness and clinical decision-making abilities. Both studies emphasize the need for students to be confident and well-prepared for their academic and professional journey.

Practical skill development is crucial for preparing nursing students for the complexities of healthcare. Becker and Doherty (2021) emphasize the importance of practical readiness for future roles in healthcare. The current study's high mean score in Skill Development indicates a strong consensus among students about their preparedness for practical aspects of their education. Oermann et al. (2022) advocate for a balanced approach that addresses theoretical and practical readiness. They suggest holistic education is essential for developing competent and confident nursing professionals. These insights highlight the interconnectedness of the learning environment, knowledge acquisition, skill development, and overall readiness in fostering an effective educational framework that aligns with the multifaceted demands of the nursing profession.

3.2 Attitude of Students Toward Face-To-Face Classes

In terms of Motivation

Students' motivations for face-to-face classes indicate their views on nursing education (Table 2). The highest means, representing the most positive views, emphasize altruism and passion. The comment "I am excited about the prospect of helping others through nursing" (mean: 4.49) shows their passion for patient care and sense of purpose. In addition, "I am driven to improve my nursing knowledge and skills continuously" (mean: 4.43) underlines their commitment to personal and professional growth. The statement "My desire to make a difference in people's lives motivates me in my nursing journey" (mean: 4.34) emphasizes the students' altruism and dedication to effective healthcare. However, the statements with the lowest means, but still in the "Positive Attitude" category, reveal areas that need work. "I find the challenges of nursing education to be motivating" (mean: 3.69) suggests that while students enjoy obstacles, they may not be the main motivators. The low mean of "I am motivated to excel in my nursing studies" (mean: 3.99) suggests that academic aspirations may motivate

them. "My belief that nursing is a profession that aligns with my values" (mean: 4.20) indicates excellent alignment. However, it decreases significantly, requiring deeper study of field membership elements.

Table 2. The attitude of students toward face-to-face classes in terms of motivation

Indicators	Mean	Descriptive Rating	Interpretation
1. I am motivated to excel in my nursing studies.	3.99	Agree	Positive attitude
2. The challenges of nursing education are motivating.	3.69	Agree	Positive attitude
3. My passion for healthcare drives my commitment to my nursing program.	4.15	Agree	Positive attitude
4. I am enthusiastic about the career opportunities that nursing offers.	4.29	Agree	Positive attitude
5. I am driven to improve my nursing knowledge and skills continuously.	4.43	Agree	Positive attitude
6. I am motivated to contribute positively to patient care.	4.45	Agree	Positive attitude
7. Nursing is a profession that aligns with my values.	4.20	Agree	Positive attitude
8. My desire to make a difference in people's lives motivates my nursing journey.	4.34	Agree	Positive attitude
9. I am excited about the prospect of helping others through nursing.	4.49	Agree	Positive attitude
10. My motivation keeps me focused on my long-term nursing goals.	4.26	Agree	Positive attitude
Overall Mean	**4.23**	**Agree**	**Positive attitude**

According to implications and literature, students' favorable attitudes align with the Responsive and Responsible Leadership (RRL) framework. The RRL principles emphasize positive learning environments that encourage engagement and intrinsic motivation, which explains the high ratings for statements about helping others and ongoing progress. The lower scores indicate areas for growth, underlining the need for educators to design experiences that connect obstacles to personal beliefs and demonstrate how nursing skills affect patient care.

Hutchison & Collins (2019) and Cangelosi & Gardner (2016) support the data by emphasizing the positive correlation between intrinsic motivation for helping others and academic success and connecting challenges to personal values. Hodges and Davis (2015) emphasize the importance of pleasant RRL learning settings that boost student confidence and enjoyment. To understand students' perspectives, this analysis highlights strengths and places for improvement. It emphasizes connecting educational experiences with students' intrinsic motivations and personal values, creating a good and effective learning environment in face-to-face sessions.

In terms of Overall Confidence

The analysis in Table 3 reveals student confidence in face-to-face classes, providing valuable insights into their self-perception and readiness for nursing education challenges. The three highest means indicate a strong sense of purpose and self-efficacy in their chosen profession, aligning perfectly with the Responsive and Responsible Leadership (RRL) framework's goals of fostering responsible learners who contribute positively to their communities. While still within the "Positive Attitude" range, the lowest means provide insights into areas where students might benefit from additional support and targeted interventions. For example, "I have confidence in my clinical decision-making and critical thinking skills" (mean: 3.70) suggests that students might feel somewhat apprehensive about applying their knowledge in real-world clinical situations despite their overall confidence.

Table 3. The attitude of students toward face-to-face classes in terms of overall confidence

Indicators	Mean	Descriptive Rating	Interpretation
1. I am confident in my ability to succeed in my nursing program.	4.00	Agree	Positive attitude
2. I have the necessary skills to excel in my nursing coursework.	3.85	Agree	Positive attitude
3. My confidence in my nursing abilities grows with each passing semester.	3.95	Agree	Positive attitude
4. I am well-prepared for the challenges I encounter in clinical practice.	3.78	Agree	Positive attitude
5. I have confidence in my clinical decision-making and critical thinking skills.	3.70	Agree	Positive attitude
6. I am self-assured in my interactions with patients and healthcare professionals.	4.11	Agree	Positive attitude
7. I have confidence in my ability to adapt to evolving healthcare environments.	4.21	Agree	Positive attitude
8. My nursing education has boosted my overall self-confidence.	3.93	Agree	Positive attitude
9. I am confident that I will make a positive impact as a future nurse.	4.23	Agree	Positive attitude
10. Overall, I have a high level of confidence in my nursing capabilities.	3.94	Agree	Positive attitude
Overall Mean	**3.97**	**Agree**	**Positive attitude**

The overall high level of confidence among students aligns well with the RRL framework's focus on building student self-efficacy and confidence throughout their learning journey. The high scores for statements related to adaptability, communication skills, and future impact highlight the positive influence of nursing education on students' professional self-awareness and readiness for real-world challenges. However, the lower scores for clinical decision-making, confidence growth consistency, and self-perceived academic preparedness suggest potential areas for further support and development. Supporting studies, such as those by Giddens (2019) and Hutchison & Collins (2019), emphasize the importance of developing self-efficacy in nursing students through practical experiences and positive reinforcement. Overall, this analysis contributes to a nuanced understanding of student confidence, offering actionable insights for educators to enhance students' overall readiness and self-assurance in face-to-face nursing education.

3.3 Academic Performance of Students

The analysis in Table 4, focusing on student academic performance, reveals an overall interpretation of "Moderately Good" with an average GPA of 1.8283. It falls within the range of 1.50 to 2.0, indicating that students generally achieve slightly above-average grades. While this suggests a satisfactory academic standing, it also underscores the need for further exploration to enhance academic success.

Table 4. Academic performance of the students

	Mean	SD	Interpretation
General Weighted Average	1.8283	.26772	Moderately Good

The implications of these findings are twofold. Firstly, recognizing the "Moderately Good" performance highlights potential areas for improvement. Understanding the factors contributing to variations in student performance and implementing targeted interventions could help students reach their full potential and achieve higher academic success. Identifying specific challenges or learning gaps through student feedback, assessing teaching methods and course structures for engagement and effectiveness, and investigating external factors affecting students, such as personal or socioeconomic challenges, are crucial steps in addressing these performance variations.

Secondly, further investigation into the distribution of grades within the class is essential. Understanding whether a significant number of students are struggling with low grades or if the performance is evenly distributed within the "Moderately Good" range can help prioritize interventions and allocate resources effectively. This nuanced approach allows educators to tailor support based on the specific needs of students, whether they require additional academic assistance, personalized guidance, or support in overcoming external challenges. In alignment with supporting studies, Tsui and Cheng (2023) emphasize the significance of effective teaching strategies, personalized feedback, and academic support systems in improving student academic performance in nursing programs. Hutchison and Collins (2019) identify intrinsic motivation and supportive learning environments as key factors contributing to higher academic achievement in nursing students. Additionally, Kraiger and Cannon (2020) highlight the impact of clinical experiences on academic performance, suggesting that real-world application can enhance motivation and understanding of theoretical concepts.

3.4 Relationship Between Readiness, Attitude, and Academic Performance

Table 5. Analysis of the relationship between readiness, attitude, and performance

Academic Performance	Pearson correlation (r)	P-value	Interpretation
Readiness			
Learning	-0.750	0.032	Significant
Knowledge	0.081	0.879	Not Significant
Skills	0.096	0.792	Not Significant
Attitude			
Motivation	-0.141	0.698	Not Significant
Enjoyment	0.223	0.502	Not Significant
Overall confidence	0.219	0.377	Not Significant

There is a significant negative correlation ($r = -0.750$, $p = 0.032$) between readiness in learning and academic performance. It indicates that students who are more prepared for learning tend to have better academic performance in face-to-face classes. There are no significant correlations between readiness in knowledge ($r = 0.081$, $p = 0.879$) or skills ($r = 0.096$, $p = 0.792$) and academic performance. It suggests that readiness, specifically in learning, might be more crucial for academic success than knowledge or skills readiness. None of the attitude factors—motivation ($r = -0.141$, $p = 0.698$), enjoyment ($r = 0.223$, $p = 0.502$), and overall confidence ($r = 0.219$, $p = 0.377$)—show significant correlations with academic performance. It implies that students' attitudes towards face-to-face classes, in terms of motivation, enjoyment, and overall confidence, may not directly impact their academic performance.

The significant negative correlation between readiness in learning and academic performance highlights the importance of students being adequately prepared for learning activities in face-to-face classes. Educators should focus on strategies to enhance students' readiness for learning, which could positively influence their academic outcomes. The lack of significant correlations between attitude factors (motivation, enjoyment, and overall confidence) and academic performance suggests that while a positive attitude is desirable, it might not directly translate to better educational outcomes in face-to-face classes. It challenges the common assumption that positive attitudes always lead to better performance. Smith et al. (2018) conducted a similar study investigating the relationship between student readiness, attitude, and academic performance in traditional classroom settings. Their findings align with the current study's results, emphasizing the significance of readiness in learning for academic success. Johnson and Lee (2019) explored the impact of student attitude on academic performance in various learning environments. While their study included online learning contexts, the results regarding the lack of direct correlation between attitude factors and academic performance resonate with the findings of this study in face-to-face classes.

The study provides critical insights into nursing students' readiness, attitudes, and academic performance, leading to targeted recommendations for enhancing educational practices across multiple levels. For the university and its educators, fostering interdisciplinary collaboration is crucial; integrating diverse professional insights and academic disciplines can create a more holistic educational environment, benefitting student learning and development comprehensively. Additionally, there is a significant emphasis on integrating advanced educational technologies, such as Adaptive Learning Platforms (like Khan Academy and ALEKS) and Learning Management Systems (such as Canvas and Moodle), which can personalize the learning experience, track progress, and provide necessary support, thereby enhancing the overall educational process. Educators are also encouraged to recognize and address the diverse readiness levels among students by employing varied instructional methods and creating personalized learning plans, which can lead to more effective learning outcomes.

For nursing schools, there is a call to delve deeper into the factors influencing academic performance through comprehensive student feedback analysis. This will allow for the development of tailored interventions that address individual students' challenges and strengths. It can also aid in curriculum planning and the modification process. Moreover, expanding student support services like academic advising, counseling, and mentorship programs is recommended to provide a more supportive and empowering learning environment. Clinical instructors are advised to adopt comprehensive teaching frameworks that consider students' socioeconomic backgrounds, personal challenges, and varied learning styles. This includes implementing flexible assessment methods, such as project-based assessments and alternative ways of demonstrating skills and knowledge, to better align with diverse student readiness levels.

The study highlights the importance of self-awareness and self-adjustment for nursing students. By understanding their readiness, attitudes, and performance levels, students can identify areas of strength and opportunities for improvement, thereby optimizing their learning strategies and overall educational experience. Future researchers are encouraged to identify specific factors contributing to academic success and explore new models that accurately capture students' complex experiences. It involves developing innovative interventions based on the latest educational theories and practices, aiming to continuously adapt and enhance educational methodologies. Future studies could explore the specific factors contributing to readiness and how these can be optimized to enhance student performance. Implementing longitudinal research could assess how changes in

readiness and attitude impact academic performance over time, especially as educational strategies evolve. Comparing these findings with those of other institutions or educational settings could provide broader insights into the generalizability of the results and the effectiveness of specific educational interventions across diverse contexts. Based on the identified importance of readiness, future work could develop and test specific interventions to enhance student readiness, particularly focusing on the practical application of skills and knowledge in clinical settings.

4.0 Conclusions

This study has effectively mapped the landscape of readiness, attitude, and academic performance among nursing students at Central Mindanao University as they transition back to face-to-face learning environments. The findings reveal a high level of readiness among students, which varies across different dimensions, such as the learning environment, knowledge acquisition, and skill development. This diversity in readiness levels highlights the heterogeneous nature of student preparedness, emphasizing the need for tailored educational interventions. Students demonstrated a consistently positive attitude towards face-to-face classes, reflecting in dimensions such as motivation, enjoyment, and overall confidence. This positive attitude is crucial as it sets a supportive backdrop for academic endeavors and personal growth within the educational setting. Students' academic performance was moderately good, indicating a generally satisfactory but improvable academic standing. The study identified a significant relationship between readiness, particularly in learning, and academic performance, thereby rejecting the null hypothesis. This considerable correlation underscores the critical impact of readiness on educational outcomes and advocates for enhanced preparatory measures and resources to bolster student readiness.

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7.0 Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this paper.

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Out-of-Field Teachers' Professional Resilience: A Grounded Study

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Abstract. This qualitative inquiry aimed to determine the coping strategies and bridge the lack of comprehensive understanding of the processes and factors contributing to out-of-field teachers' professional resilience. The in-depth interviews of the 12 participants generated emergent themes and central categories that revealed the OFT's coping strategies. The theory developed from the extensive data collected and examined showed the profound perception of how out-of-field teachers succeed in the teaching profession. A targeted professional development program for out-of-field teachers focusing on content and pedagogical strategies can be designed using the theory generated as a foundation. Through this research, other researchers may explore the development and implementation of targeted professional development programs and support systems that specifically address the unique challenges faced by out-of-field teachers and investigate the long-term impact of resilience-building strategies on teachers' teaching effectiveness and career satisfaction. By providing teachers with the necessary tools to effectively teach the subject, these specially tailored programs aid in closing the knowledge gap and help OFTs thrive in this noble profession.

Keywords: Coping strategies; Grounded theory; Out-of-field teachers; OFT resilience framework; Professional development program.

1.0 Introduction

Teachers are frequently regarded as modern-day heroes for their unwavering commitment to nurturing a positive learning environment by imparting knowledge and influencing the character of students (Garrucha, 2022). The statement emphasizes instructors' crucial role in influencing students' cognitive and affective growth, emphasizing the extensive influence of their commitment. The portrayal of teachers as contemporary heroes underscores the significance of their resilience and adaptation in effectively addressing the ever-changing demands of the educational landscape and society. In addition, empowered teachers exude energy, optimism, and hope, which helps create a supportive classroom atmosphere (Derakhshan, 2022). Their steady behaviors and attitudes harmonize with their everyday experiences, enabling them to remain consistent in their teaching practices (Mail, 2020). The focus on their positive influence within the classroom suggests that teachers' attitudes and behaviors can profoundly affect the learning environment, fostering a space where students thrive. Moreover, teachers showcase adaptability by evolving with educational advancements and societal shifts (Ficher & Baladeli, 2017). Teachers push educational boundaries, take calculated risks without missing opportunities, encourage during challenging times, tackle obstacles with humor, and love without limits (Daher & Hashash, 2022).

According to Monteiro (2015), teaching requires a certain level of professionalism, as it is best exemplified by embodying a blend of qualities, values, and knowledge. This idea is also affirmed by Beausaert (2013), who opined that as the leading figures in education, teachers need to be qualified and informed to transfer knowledge to their

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students. Effective teaching is a personal as well as a professional endeavor. Nevertheless, to guarantee that students obtain quality education, an effective teacher must have a deep comprehension of the subject, a high degree of experience, and a willingness to impart knowledge.

In today's complex world, various challenges have confronted teachers and hampered them in fulfilling their professional obligations. Furthermore, teachers' creative ability and fortitude have always been at stake, especially with the new breed of academically challenged learners in a technologically advanced classroom environment. Therefore, learning facilitators need to upkeep themselves not only of content and pedagogical knowledge but also of technological skills to become effective reservoirs of knowledge.

UNESCO's Global Report on Teachers: Addressing Teacher Shortages (2023), teaching out-of-field, where educators teach subjects outside their formal training or expertise, is prevalent globally. This situation often arises due to teacher shortages and uneven distribution of qualified teachers, particularly in lower secondary education. In some countries, over 10% of science and mathematics teachers at the lower secondary level have no formal education or training in their subjects. The prevalence of out-of-field teaching is partly due to systemic issues such as insufficient teacher training programs and the casualization of the teaching profession, where many educators work part-time or on short-term contracts. It undermines the quality of education and impacts student outcomes negatively.

Similarly, Russell (2022) cited SEAMEO's research, which revealed that out-of-field teaching may harm the quality of education since teachers may need more pedagogical expertise or subject matter expertise to teach things outside of their expertise. Additionally, SEAMEO highlights the importance of strategic policies to ensure a more even distribution of qualified teachers, especially in rural and underserved areas. They also advocate for better data collection and research to understand the long-term impacts of out-of-field teaching on educators and students and to develop effective interventions to support these teachers' professional growth and improve student outcomes (UNESCO's Global Education Monitoring Report, 2023).

In the Philippines, out-of-field teaching presents several significant challenges, as highlighted by various reports and studies. The Philippine Institute for Development Studies (PIDS) (2019) has underscored the impact of misassigned teachers on educational quality, noting that it can lead to reduced student performance and teacher burnout. To mitigate these issues, PIDS recommends policy changes to address human resource distribution in public schools. Also, the Department of Education (2024) has proactively addressed the situation by gathering insights from schools and emphasizing the need for specialized training and support for teachers teaching subjects outside their expertise. Furthermore, the National Educators Academy of the Philippines (NEAP) offers professional development programs to equip teachers with the necessary skills and knowledge to handle out-of-field teaching assignments effectively.

While it is commendable that the government, through its agencies, has plans to help and assist out-of-field teachers, the researcher saw the need to unravel their coping strategies to fully grasp their experience and how they thrive in imparting learning amidst the difficulties they have experienced. Furthermore, there needs to be more non-publication of out-of-field teachers' accounts that unravel their coping strategies. Thus, this study aimed to determine the coping strategies of out-of-field teachers. Specifically, the researcher would like to generate a theory on teachers' coping strategies as they thrive in teaching subjects not aligned with their major.

2.0 Methodology

2.1 Research Design

The study was anchored on Charmaz's Constructivist Grounded Theory (CGT), which offered a flexible and iterative approach to qualitative research, emphasizing the active role of the researcher in constructing meaning from data while remaining grounded in empirical evidence. Constructivist grounded theory, part of the pragmatic school, emphasizes the relationship between action and meaning in creating reality. The researcher developed the idea by interpreting the participant accounts describing actual events. Tan (2010) opined that in CGT, researchers are part of the world they study and the data they collect. They construct GT through "past and present involvements and interactions with people, practices and research practices."

Meanwhile, CGT begins with induction-derived evidence. It uses recurring techniques that switch between data and analysis. In addition to maintaining engagement and involvement with the data and developing analysis, CGT defends the comparative technique. Nevertheless, it uses fundamental grounded theory techniques for developing theories using comparative methodologies, like coding, memo writing, and sampling. This method uses a literature review constructively and sensitively to the data without imposing it on it (Charmaz, 2006).

2.2 Participants of the Study

The study participants were 12 public school teachers who had been teaching for over five years. The participants had been out-of-field teachers for at least two years and taught at least one subject that was not aligned with their field of expertise. These public school teachers were only among those who signed the consent and agreement as inscribed in this study's ethical procedures.

2.3 Research Instrument

As the primary tool for the study, the researcher conducted in-depth interviews with the informants to help secure rich data from the field. Burkus (as quoted in Alboruto, 2015) asserted that the researcher was a tool for gathering data in a qualitative study. Given that the primary research instrument was the researcher, he should avoid any potential biases and peculiarities. These included circumstances resulting from the researcher's history, reasons for conducting research, and classifications or filters that could affect how one interprets actions and occurrences in the field (Yin, 2011).

2.4 Data Collection Procedure

Charmaz (2006) asserts that data serves as the theoretical basis and that the developed concepts result from the data analysis. This is the constructivist grounded theory tenet that served as the foundation for the entire investigation. Since grounded theorists begin with data, gathering data is the first step in the modest qualitative investigation. The following data collection procedure was followed.

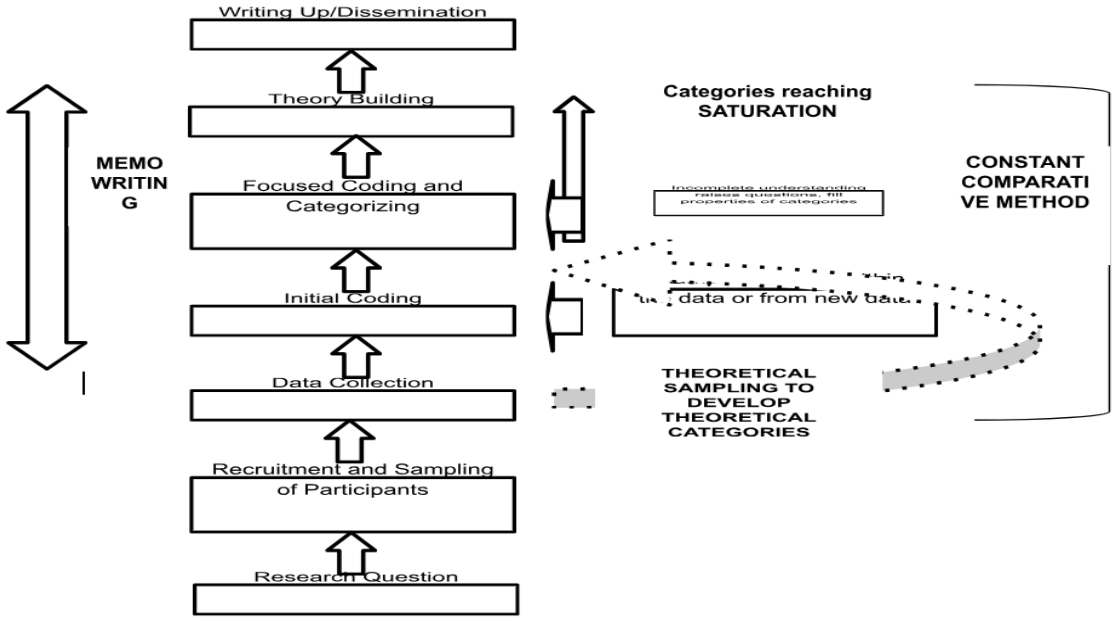

Figure 1. Visual representation of a grounded theory process (Charmaz, 2014)

Before embarking on an in-depth interview of the informants, the researcher identified public and private high school teachers who were teaching not in their major field of specialization, school heads, and division personnel. After identifying the initial samples of participants, a consent letter was sent to them. Upon the informants' approval, the researcher interviewed at their most convenient time and place. The interview protocol guided the researcher in eliciting the insights and ideas of the participants. The researcher observed the participants'

expressions, emotions, reactions, and non-verbal cues during the interview. Responses were recorded through the informant's consent, and field notes were also undertaken during the interview.

Grounded theory invoked iterative strategies of going back and forth between data and analysis (Charmaz, 2006). Collecting, coding, and analyzing happened simultaneously and repeatedly. Data collection and analysis were interactive processes in which data were continuously collected and analyzed (Glaser & Strauss, as cited in Alboruto, 2015).

2.5 Data Analysis

According to Charmaz (2006), grounded theory coding generates the bones of the research analysis. It allows the researcher to think and ask analytical questions about the gathered data, broadening the researcher's understanding of the studied life and directing subsequent data-gathering. Thus, coding shapes an analytic frame from which the researcher will build the analysis. At least two main phases were involved in grounded theory coding: initial and focused coding. This study's *initial coding* activity included naming data fragments such as words, lines, segments, and incidents. The goal is to remain open to all possible theoretical directions while studying closely the data for their analytic import. In *focused coding,* the researcher selected the most useful or frequent initial codes to sort, synthesize, integrate, and organize large amounts of data. Focused coding requires deciding which initial codes make the most analytic sense to categorize the data incisively and completely. When similar attributes of initial codes were combined, selective codes or categories were identified. The categories were combined into themes or theoretical codes from which a theory was abstracted.

2.6 Ethical Considerations

Throughout the study, there was one critical personal trait that the researcher advocated. A strong sense of ethics was brought towards the conduct of the research, particularly regarding the specific procedures for protecting human subjects, being the participants of the conducted study, and handling the data. At the same time, the researcher observed discretionary decisions that would address concerns regarding the completion of the research project report and how the results were communicated (Yin, 2011). Below are the following ethical issues that were dealt with in this study, together with the explicit measures that were undertaken (Alboruto, 2015):

Voluntary Participation. After the research study participants are identified, the researcher personally explains to them the nature of the invitation so they would clearly understand the whole research activity. It was voluntary, and they would not be obliged or compelled to undertake the in-depth interview if it was against their free will. Neither would they be forced, deceived, or threatened if they opted not to participate in the research process. These were stated in the informed consent or any written communications. Thus, only interviews were conducted if the participants had signed informed consent forms.

Informed Consent. Before the interview, the researcher prepared an invitation or a written approval sheet containing statements indicating the study's background, purpose, and nature. The approval sheet was handed over to the participants and explained to them. They signed the consent form when they willingly agreed to participate in the research activity. The information sheet will contain the following: name of the researcher; the institutions where the researcher is connected; the purpose of the research; duration of the interview; tasks of the interviewee; written disclosure of the informant's safety, protection, confidentiality, and anonymity; manner of utilizing the gathered data; and the process of informing the result to the participants.

Confidentiality. Throughout the research activity, the researcher will uphold high discretion in keeping the informants' identity and the information shared possible. Confidentiality will be handled by not indicating the informants' names in any part of the written paper. Codes or pseudonyms were used to identify the participants during the recorded interviews. The same codes or pseudonyms were utilized when transcribing the participants' statements during the interview. Only the researcher had access to the raw data, which was kept in a secure place, and no one was asked to do the transcribing except the researcher himself.

3.0 Results and Discussion

3.1 Themes

After going through an intensive and iterative process of analyzing the data, the core theme that emerged was "Out-of-field teachers' professional resilience." From this core code, five significant themes have emerged such as:
Theme 1: Professional Competence Development
Theme 2: Social Capital and Networking
Theme 3: Resource Management and Technological Integration
Theme 4: Pedagogical Adaptability and Innovation
Theme 5: Well-being and Efficiency

Theme 1: Professional Competence Development

Developing the professional competence of out-of-field teachers is crucial for ensuring effective instruction across diverse subject areas. These educators often need more formal training or experience in their teaching subjects. Fliarkovska et al. (2022) supported this idea by saying that by investing in professional development, schools can help out-of-field teachers acquire the necessary knowledge, skills, and strategies to deliver high-quality instruction. This not only enhances teaching effectiveness but also promotes student learning and achievement. Moreover, supporting the growth of out-of-field teachers fosters a collaborative and supportive school culture, where educators feel empowered to continuously improve their practice and adapt to new teaching assignments. Ultimately, prioritizing the professional competence of out-of-field teachers is essential for maintaining educational standards and promoting equitable learning opportunities for all students (Mesias, 2022). These are a few of the lines from the interview to substantiate the importance of developing OFT's professional competence:

"I get excited every time I will be sent to a seminar or training because I will learn something new." -P2

"When our school principal invited resource persons during our lack session, I made it a point to listen because it is one of ways of increasing my knowledge in the subjects that I am teaching" – P8

"I would join the training and workshop even if it means sacrificing mg weekends to improve my skill." P-4

Theme 2: Social Capital and Networking

Social capital and networking are invaluable resources for out-of-field teachers, facilitating knowledge exchange, collaboration, and professional growth. Research by Penuel and Gallagher (2017) highlights the importance of social networks in providing support and resources for teachers navigating new subject areas. By connecting with colleagues, out-of-field teachers can access expertise and guidance that enhance their teaching effectiveness (Hargreaves & Fullan, 2012). Furthermore, according to Bryk and Schneider (2002), social capital within schools positively correlates with teacher retention and job satisfaction, crucial factors for out-of-field teachers adjusting to unfamiliar teaching assignments. Building and maintaining strong social networks also fosters a sense of belonging and collegiality, which can mitigate feelings of isolation often experienced by out-of-field teachers (Ingersoll & Strong, 2011). Therefore, fostering social capital and networking opportunities is essential for supporting out-of-field teachers' professional development and well-being in educational settings. Teachers emphasize this as stated in these lines:

"…with the help of my co-teachers, eventually it became easier." – P3

"When I struggle with any part of my lesson, I would usually run up to my senior teacher and ask for help from them. They are so generous that sometimes they had to extend their time in school to assist me." – P9.

Theme 3: Resource Management and Technological Integration

According to Jiang (2021), effective resource management and technological integration are essential for OFTs to improve their methods. Teachers can access various digital educational materials, such as multimedia platforms, courseware servers, and online libraries, by efficiently managing teaching resources using platforms that blend traditional methods with network technology. This integration allows students to have more individualized learning experiences, increase engagement, and have better access to resources, all of which help teachers provide

high-quality instruction. Virtual and augmented reality technologies can also be used to create immersive learning environments, which is advantageous for teachers and students (Junger et al., 2023).

Furthermore, the OECD (2015) emphasizes the potential of technology to improve educational equity and access, particularly for underserved populations. Integrating technology effectively requires thoughtful planning and ongoing professional development for educators (Mishra & Koehler, 2006), ensuring that technology enhances, rather than replaces, effective teaching practices. Therefore, by prioritizing resource management and technological integration, schools can create environments conducive to innovative teaching and meaningful learning experiences for all students. Some of the teachers' narratives are indicated below.

"I used YouTube and video clips, downloadable OERs, and other internet-sourced materials to understand further the concept I will teach. Students enjoyed this much, and it made me feel relieved. "P5

"I do not want to be burdened by the thought that I do not have resources; I just used downloadable videos in class. The video presentation will help me demonstrate skills in PE."-P12.

Theme 4: Pedagogical Adaptability and Innovation

Pedagogical adaptability and innovation are essential for out-of-field teachers to effectively navigate new subject areas and meet the diverse needs of their students. Research by Shulman (1987) highlights the importance of pedagogical content knowledge, which includes the ability to adapt teaching strategies to different subject domains. Additionally, Hargreaves and Fullan (2012) emphasize the role of innovation in enhancing teaching effectiveness and promoting student engagement. Furthermore, according to Kong (2019), pedagogical innovation is crucial for out-of-field teachers to bridge knowledge gaps and effectively teach subjects outside their expertise. By embracing adaptability and innovation, out-of-field teachers can foster dynamic, student-centered learning environments that promote academic success and engagement (Penuel & Gallagher, 2017). Therefore, investing in developing pedagogical adaptability and innovation is essential for supporting the professional growth and effectiveness of out-of-field teachers in educational settings. Some statements from the participants are evident below:

"I prioritize reading in advance every weekend to discuss the lessons with my students properly." P1

"It was difficult because I had no one to ask from but myself. I had to burn my midnight candles just to research…"P4

Theme 5: Well-being and Efficiency

Out-of-field instructors' productivity and well-being are necessary to impact their overall effectiveness and professional success significantly (Abubakar et al. (2020). High levels of well-being, including job satisfaction and good emotions, have increased instructors' engagement, creativity, and intrinsic motivation, improving team performance and productivity (Claudia, 2023). Moreover, job burnout mediates the relationship between occupation efficiency and well-being, emphasizing the significance of resolving burnout to improve teachers' general well-being and effectiveness. Maintaining instructional effectiveness, a positive classroom environment and employee job satisfaction depend on institutional support and policies that support teachers' well-being. These factors eventually improve teaching and learning outcomes. By prioritizing teacher well-being, schools can foster environments that promote job satisfaction, effectiveness, and student success (Collie & Martin, 2023). Therefore, investing in strategies to support the well-being and efficiency of out-of-field teachers is essential for sustaining a high-quality teaching workforce and promoting positive learning outcomes. These statements from the participants would validate this theme:

"When things are difficult, and I do not know what to do with my lessons, I usually take a break and go on recreational activities. I trek to the foot of Mt. Malindang, go biking, or refresh myself to the beach." P12

"I must stay long and finish reading or researching for my discussion the following day. I have enough time to study for the subject aligned to my major and those that need much time and attention." P11

3.2 Theory Generation

The theory of "Out-of-Field Teachers' Professional Resilience" emerged through examining interconnected themes that influence the experiences of educators teaching outside their expertise. Initially, the challenges faced by out-of-field teachers, such as limited subject knowledge and pedagogical skills, were identified as critical areas of concern. This led to exploring factors contributing to teachers' ability to overcome these challenges and thrive in their roles. Themes such as Professional Competence Development, Social Capital and Networking, Pedagogical Adaptability and Innovation, Resource Management and Technological Integration, and Well-being and Efficiency were critical components of out-of-field teachers' resilience. An analysis of the connections among these themes developed a comprehensive understanding of the factors that shape out-of-field teachers' professional resilience. This theory emphasizes the importance of holistic support systems and development strategies to empower educators in diverse teaching roles and promote positive outcomes for teachers and students.

Figure 2. The theory of "Out-of-Field Teachers' Professional Resilience."

This integrative theory posits that the resilience and effectiveness of out-of-field teachers are underpinned by a multifaceted approach encompassing continuous professional competence development, leveraging social capital and networks, efficient resource and technology management, pedagogical adaptability, and maintaining personal well-being. These components interact dynamically, contributing to teachers' overall resilience and adaptability in out-of-field teaching assignments.

Based on this theory, schools should offer specialized professional development and establish mentoring systems to support continuous learning and guidance for out-of-field teachers. Facilitating collaborative networks and peer support groups can foster a sense of community and resource sharing. Ensuring access to diverse teaching resources and technology and training on their integration can enhance teaching practices. Programs focusing on stress management and effective time management are essential to maintaining teachers' well-being and preventing burnout. Encouraging reflective practices and flexible teaching approaches can help teachers continuously improve and adapt their methods to meet students' needs better.

4.0 Conclusion

The "Out-of-Field Teachers' Professional Resilience" theory offers a thorough conceptual framework for comprehending the distinct obstacles and capabilities encountered by educators who instruct in domains beyond their designated areas of expertise. It emphasizes the importance of cultivating professional competence, which empowers these educators to acquire the essential skills and information required to excel in their positions. The idea also underscores the significance of social capital and networking, positing that robust support networks are vital for educators to surmount the challenges of teaching in unfamiliar domains. The significance of pedagogical flexibility and innovation lies in their ability to assist educators in modifying their educational approaches to effectively address the different demands of their classrooms. Furthermore, the proficient administration of resources and the incorporation of technology play a pivotal role in augmenting the efficiency and efficacy of instruction. The generated theoretical framework emphasizes the importance of teacher well-being, advocating for using techniques that foster personal and professional development. This paradigm advocates for comprehensive support structures that empower teachers not in their field of expertise, promoting favorable outcomes for educators and their students.

5.0 Conflict of Interest Interest

The author declares no conflict of interest.

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Assessing Pedagogical Approaches in Bachelor of Elementary Education: A Focus on Practical Outcomes

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Abstract. The study aimed to assess the effectiveness of pedagogical approaches in teaching BEEd, focusing on their implementation. The study utilized a descriptive-correlational research design to determine the profile variables of the respondents, their assessment of the effectiveness of pedagogical approaches, and the extent of challenges and issues encountered by the faculty members in implementing pedagogical approaches. The study found that all pedagogical approaches used in teaching BEEd were assessed as highly effective. On the other hand, faculty members encountered various challenges while implementing pedagogical approaches. Despite these challenges, the study revealed no significant difference between respondents' assessments.

Keywords: Pedagogical approaches; Effectiveness; BEEd; Implementation; Challenges.

1.0 Introduction

The efficacy of pedagogical approaches in shaping student outcomes is a cornerstone of higher education. Effective pedagogy is crucial for fostering student development, cultivating subject matter expertise, and bridging the gap between academia and real-world applications (Ruarte, 2019; Habib, 2017). Educators, as the primary architects of the learning experience, wield significant influence over student achievement. To optimize outcomes, higher education institutions (HEIs) must prioritize the selection of competent educators equipped with robust pedagogical content knowledge (TPCK) (Habib, 2017).

Despite the acknowledged importance of effective pedagogy, research on its implementation in specific contexts, such as Bachelor of Elementary Education (BEEd) programs, still needs to be completed. While studies have highlighted the need for innovative pedagogical practices to address the evolving demands of the 21st century (Leite & Zabalza, 2012; Tuncdogan et al., 2019), there is a shortage of research investigating the challenges and opportunities associated with their integration into BEEd curricula.

This study aims to contribute to this knowledge gap by examining the effectiveness of pedagogical approaches employed in BEEd programs. Specifically, it will explore faculty members' challenges and issues when implementing these approaches. By understanding these factors, this research seeks to inform the development of strategies to enhance pedagogical practices in BEEd programs and better prepare future educators to meet the needs of diverse learners.

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2.0 Methodology

2.1 Research Design

A quantitative descriptive-correlational research design was employed to examine the relationships among faculty profile, pedagogical approach effectiveness, attainment of BEEd Program Learning Outcomes (PLOs), and associated challenges. Statistical correlation analyses, such as Pearson's r or Spearman's rho, were utilized to determine the strength and direction of relationships between these variables.

2.2 Research Locale

The study was conducted at the Cagayan State University-Aparri campus in Barangay Maura, Aparri, Cagayan. The campus houses the College of Teacher Education, which offers Bachelor of Elementary and Secondary Education programs. The campus provides a conducive learning environment for students since it has the necessary facilities for teacher education, including classrooms, laboratories, and a library. Notably, the College has consistently demonstrated excellence in teacher education, with recent high passing rates in the Licensure Examination for Teachers.

2.3 Research Participants

The study included 82 participants: 20 faculty members and 62 graduates from the Bachelor of Elementary Education program at Cagayan State University, Aparri Campus. Stratified random sampling was employed to obtain a representative sample and reduce selection bias. This method categorized the population into subgroups (strata). Participants were then randomly selected from each stratum proportionally to their representation in the overall population. This probability sampling technique is commonly used in surveys to ensure that subgroups within the population are adequately represented (Parsons, 2017).

2.4 Research Instrument

All participants provided written informed consent outlining the study's purpose and potential benefits. Data was collected using a structured questionnaire administered through face-to-face interviews with faculty members and online surveys via Google Forms for graduates. Part III of the questionnaire was adapted from CMO 74, Series of 2017, with modifications to align with the study's objectives. This study used an adopted, modified, validated survey questionnaire as the main instrument and primary data source to answer the research questions. To ensure the validity and reliability of the questionnaire, questionnaire design experts analyzed the questions for clarity, relevance, and coverage of the intended constructs. More so, a small sample of the target population completed the survey to identify confusing questions, flow issues, or missing data.

2.5 Data Gathering Procedure

This study used specific steps to gather data. A formal letter of request was addressed to the Dean of the College of Teacher Education. Before commencing data collection, written informed consent was obtained from all participating respondents, explicitly ensuring their voluntary participation. This process provided detailed information about the study's objectives and anticipated outcomes. The collected data was meticulously compiled and organized for analysis and interpretation, adhering to the strictest confidentiality principles. Its use was solely confined to advancing the research investigation. Data gathering was employed in two forms: face-to-face data collection through hard copy questionnaires for faculty members and Google Forms sent online for alumni respondents.

2.6 Ethical Considerations

This research adhered to strict ethical guidelines. Participant involvement was entirely voluntary, and respondents retained the right to withdraw from the study at any time without consequence. All potential harm, including physical, psychological, and social risks, was minimized. The dignity and well-being of the respondents were prioritized throughout the study. Research data was kept confidential to safeguard respondent rights and maintain scientific integrity. Rigorous measures were implemented to prevent plagiarism and research misconduct, ensuring the ethical conduct of the study.

3.0 Results and Discussion

3.1 Profile of the Participants

Table 1. Descriptive statistics of the profile of the respondents

Variables	Alumni		Faculty	
	Freq. (n=63)	Percentage	Freq. (n=20)	Percentage
Sex				
Male	5	7.9	7	35.0
Female	58	92.1	13	65.0
Age				
22 to 25	53	84.1	4	20.0
26 to 29	5	7.9	5	25.0
30 to 33	3	4.8	4	20.0
34 to 37	1	1.6	2	10.0
38 or above	1	1.6	5	25.0
Educational attainment				
Bachelor's graduate	56	88.9	-	-
Earned units in a Masteral degree	7	11.1	4	20.0
Masteral graduate	-	-	3	15.0
Earned units in a Doctorate	-	-	4	20.0
Doctorate graduate	-	-	9	45.0
Employment status				
Not Employed	32	50.8	-	-
Employed in a Non-Teaching Job	11	17.5	-	-
Contract (JO/COS) Private	15	23.8	-	-
Contract (JO/COS) Public	3	4.8	8	40.0
Permanent Private Teacher	2	3.2	-	-
Permanent Public Teacher	-	-	12	60.0

Table 1 illustrates the demographic profiles of alumni and faculty members. The alumni population exhibits a female majority with a frequency of 58 or 92.1 percent. In contrast, the faculty distribution reflects a more equitable sex (female and male) with a frequency of 13 or 65 percent comprising females. Alumni tend to be younger, with a significant proportion falling within the 22-25 age bracket or 84.1 percent and a mean age of 24.71 years. In contrast, faculty members encompass a broader age spectrum, with a higher mean age of 33.10 years and a more extensive standard deviation. This finding is because the alumni are new graduates while the faculty members are in their mid-year service.

Regarding educational attainment, most alumni hold baccalaureate degrees with a frequency of 56 or 88.9 percent, while faculty members exhibit notably advanced levels of education. A substantial segment of faculty possesses master's with a frequency of 3 or 15 percent and doctoral degrees with a frequency of 9 or 45 percent. Schudde and Bernell (2019) found in their undertaking that educational achievement influences employment prospects. This finding shows that the alumni have not engaged in post-graduate education, which is substantial for their employment. Also, this shows that faculty members have pursued their advanced education degrees.

Finally, there are discernible disparities in the employment status of the two cohorts. A significant portion of alumni are presently unemployed, with a frequency of 32 or 50.8 percent. In contrast, most faculty members are permanent public teachers, with a 12 or 60 percent frequency. Despite reported shortages of teachers, this finding shows that the teacher job market can be competitive, with more graduates than available positions in certain areas.

3.2 Effectiveness of Constructivism as a Pedagogical Approach

Table 2 illustrates the effectiveness of constructivism as a pedagogical approach in teaching the Bachelor of Elementary Education based on various indicators. The weighted mean of 4.64, with a descriptive value of "very effective," indicates that constructivist approaches are highly effective in enhancing learning outcomes within the Bachelor of Elementary Education program.

Table 2. Descriptive statistics of the effectiveness of constructivism as a pedagogical approach

Indicators	Mean	Interpretation
1. Teachers utilize graphic organizers (e.g., concept maps) to help students categorize information and identify cause-and-effect relationships.	4.65	Very effective
2. Teachers use journals to empower students to document, analyze, and synthesize learning experiences.	4.43	Very effective
3. Teachers actively use oral presentations to construct and share students' knowledge with their classmates.	4.80	Very effective
4. Teachers utilize peer assessment to engage students in self-evaluation and critical reflection.	4.54	Very effective
5. Teachers require students to create portfolios, allowing them to take ownership of their learning by selecting artifacts representing their progress and understanding.	4.47	Very effective
6. Teachers utilize rubrics to provide clear expectations and foster a focus on the learning process itself, not just the students' final grades.	4.78	Very effective
7. Teachers utilize project-based learning to actively construct knowledge among students by engaging them in real-world problems and projects that require them to research, analyze, solve problems, and create solutions.	4.80	Very effective
Overall Mean	**4.64**	**Very effective**

Among all the indicators, the utilization of oral presentation and project-based learning received the highest weighted mean of 4.80 with a descriptive value of "very effective." This finding implies that these methods effectively engage students and promote deep learning. Project-based learning allows students to tackle real-world problems and develop critical thinking, collaboration, and communication skills, all essential for success in the workplace and beyond. On the other hand, oral presentations provide students with a platform to rehearse and solidify their understanding of the course material while also strengthening their public speaking skills. According to Liu and Carless (2023), presentations improve communication skills, critical thinking, and public speaking confidence.

On the other hand, journal utilization received a slightly lower score, with a weighted mean of 4.43, but still with a descriptive value of "very effective." This implies that journal use within this approach might be slightly less impactful due to its nature, such as presenting research findings and theoretical advancements in education, which can be a step removed from the practical application teachers need in the classroom.

3.3 Effectiveness of Inquiry-based as a Pedagogical Approach

As shown in Table 3, inquiry-based pedagogy is effective in the Bachelor of Elementary Education programs. The data, reflected in weighted mean scores and descriptive values, consistently indicates a high level of effectiveness of the different instructional strategies along the inquiry-based approach. The weighted mean of 4.68 provides compelling evidence of inquiry-based approaches' effectiveness in enhancing student learning outcomes.

Table 3. Descriptive statistics of the effectiveness of inquiry-based as a pedagogical approach

Indicators	Mean	Interpretation
1. Teachers allow students to do experiments to develop essential scientific skills, such as observation, data collection, analysis, and critical thinking.	4.70	Very effective
2. Teachers utilize classroom debates for the students to explore multiple perspectives on complex issues, fostering critical thinking, research skills, and a deeper understanding of the topic	4.48	Very effective
3. Teachers allow group work among students to share their existing knowledge and experiences, enriching the collective understanding of the topic under investigation.	4.87	Very effective
Overall Mean	**4.68**	**Very effective**

Among all the indicators, allowing group work among students received the highest weighted mean of 4.87, indicating that group work is the most effective strategy within the inquiry-based approach. This aligns with current research on collaborative learning within constructivism (Amineh & Asl, 2015). Studies show that group work fosters deeper understanding and knowledge construction than individual work in inquiry-based settings (Johnson & Johnson, 2013). This also aligns well with the core principles of inquiry, as collaborative learning fosters knowledge sharing, diverse perspectives, and deeper understanding through shared investigation. This further indicates that students can learn from each other's experiences and approaches, leading to a richer collective grasp of the topic.

While still categorized as "very effective," classroom debates have a slightly lower mean of 4.48 compared to the other indicators. This finding implies that debates can be more challenging to prepare for and require specific

facilitation skills from the teacher to ensure a respectful and productive exchange. Additionally, not all students may feel comfortable with the confrontational nature of the debate, and some topics may be better suited to other learning methods. Research suggests that effective debate requires fostering specific skills like argumentation and critical analysis (Facione, 2019). Creating a safe space for respectful disagreement is crucial for productive debate (Aster & Shaw, 2018). Finally, the topic itself can influence the effectiveness of the debate. Not all subjects are well-suited for a debate format, and some might require a strong foundation of knowledge before engaging in productive debate (Jin & Kammermeier, 2020).

3.4 Effectiveness of Reflective as a Pedagogical Approach

The different teaching strategies along the reflective approach are very effective, as revealed by the overall weighted mean of 4.72 (see Table 4).

Table 4. Descriptive statistics of the effectiveness of reflective as a pedagogical approach

Indicators	Mean	Interpretation
1. Teachers utilize self-assessment to help students become more aware of their strengths, weaknesses, and learning styles.	4.67	Very effective
2. Teachers utilize classroom observations to assess student engagement, identify areas of confusion, and evaluate the effectiveness of their teaching methods.	4.72	Very effective
3. Teachers allow students to create reflective journals to engage them in metacognition (thinking about their thinking), analyze their learning experiences, and document their evolving understanding of concepts.	4.64	Very effective
4. Teachers give feedback to students to discuss, ask clarifying questions and develop strategies for improvement.	4.86	Very effective
Overall Mean	**4.72**	**Very effective**

This implies that incorporating strategies and the reflective approach into teacher education can significantly benefit future educators. Previous evidence has indicated that reflection not only facilitates conceptual understanding but also enhances problem-solving abilities and metacognitive awareness, promotes engagement in the learning process (Chen et al., 2019), and boosts learning confidence (Wang et al., 2018).

Among all indicators, giving feedback to students received the highest weighted mean of 4.86, which indicates that providing feedback is the most effective strategy within reflective pedagogy. This aligns with the study of Bangert-Drowns et al. (2019), emphasizing the importance of dialogic feedback, a two-way conversation where students actively participate in understanding and applying feedback. Effective feedback allows students to close the gap between current understanding and desired learning outcomes (Nicol & Macfarlane-Dick, 2020), develop self-assessment skills as they learn to analyze their work (Sadler, 2018), and refine teaching strategies based on student responses.

While still categorized as "very effective," self-assessment and reflective journals have slightly lower means than classroom observation and feedback. This finding shows that self-assessment and journaling, though valuable, require additional support to maximize their effectiveness in fostering deeper reflection. This finding aligns with the study of Artino & Taylor-Greene (2014), which suggests that this might be due to the need for explicit instruction and scaffolding in developing these metacognitive skills. Students may initially struggle with self-reflection, requiring guidance to analyze their strengths, weaknesses, and learning processes (Moon, 2013).

3.5 Effectiveness of Collaborative as a Pedagogical Approach

Table 5 shows the effectiveness of the collaborative approach in the Bachelor of Elementary Education programs. The different teaching strategies along the collaborative approach are very effective, as revealed by the overall weighted mean of 4.64, which implies that incorporating the collaborative approach into the Bachelor of Elementary Education program has a significant positive impact. This indicates that future educators who experience collaborative learning firsthand are well-equipped to implement it effectively in their classrooms. This finding aligns with research by Borokhovski et al. (2016), who emphasize the substantial impact of student collaboration on academic achievement.

Table 5. Descriptive statistics of the effectiveness of collaborative as a pedagogical approach

Indicators	Mean	Interpretation
1. Teachers utilize think-pair-share to engage students in active participation and knowledge construction.	4.75	Very effective
2. Teachers utilize simulations (e.g., historical simulations) to have the students reenact historical events and debate strategies and actions as a group.	4.49	Very effective
3. Teachers allow peer teaching among students to take on the role of the instructor for a designated period, explaining a concept or skill to their classmates	4.59	Very effective
4. Teachers utilize small group discussions to allow students to practice communication skills like active listening, expressing ideas clearly, and respectfully disagreeing.	4.67	Very effective
5. Teachers utilize role-play simulated scenarios in which the students actively participate, make decisions, and step into different shoes, fostering empathy and understanding of various viewpoints.	4.71	Very effective
Overall Mean	**4.64**	**Very effective**

Among all indicators, utilizing think-pair-share to engage students in active participation and knowledge construction received the highest mean of 4.75, indicating its strong impact within collaborative pedagogy. Think-Pair-Share allows for individual reflection, followed by peer discussion and knowledge sharing. Research suggests that think-pair-share promotes active participation as students think independently and then engage in discussions (Cheng et al., 2020). Moreover, Students who gain a deeper understanding by explaining concepts to peers reinforce student learning (Webb et al., 2018).

While still "very effective," simulations have a slightly lower mean of 4.49 compared to other strategies. This indicates that simulations require careful design and implementation while still being effective to maximize their benefits. This could be due to factors like design and implementation, in which the effectiveness may vary depending on the quality and facilitation of the simulation (Friesen, 2022).

3.6 Effectiveness of Integrative as a Pedagogical Approach

Table 6 presents the effectiveness of integrative pedagogy in Bachelor of Elementary Education programs. Examining various indicators, the table reveals uniformly high respondent ratings, with an overall weighted mean of 4.82, implying that integrating various subjects and real-world applications into teaching significantly benefits future educators. By experiencing this interdisciplinary approach firsthand, pre-service teachers can develop the skills and knowledge to create engaging and well-rounded learning experiences for their students.

Table 6. Descriptive statistics of the effectiveness of integrative as a pedagogical approach

Indicators	Mean	Interpretation
1. Teachers allow students to do research activities that delve into information gathering, analysis, and synthesis. They learn to evaluate sources, use credible evidence, and present their findings effectively.	4.80	Very effective
2. Teachers allow students to observe and assist their cooperating teachers in the field (e.g., field study)	4.80	Very effective
3. Teachers allow students (e.g., teaching internships) to take on more responsibilities, starting with small tasks like leading discussions or activities and teaching full lessons or units.	4.86	Very effective
Overall Mean	**4.82**	**Very effective**

While slight variations exist, all three indicators in Table 2e fall under the "very effective" category. This shows that all three strategies – research activities, field experiences, and teaching internships – are valuable components of integrative pedagogy. With the highest weighted mean of 4.86, teaching internships provide a platform for pre-service teachers to take on increasing teaching responsibilities (Zeichner, 2012). This practical experience allows them to integrate knowledge and skills across disciplines while gaining valuable hands-on experience to prepare them for future careers.

On the other hand, research activities cultivate essential skills like information literacy, critical analysis, and knowledge synthesis across disciplines (Lang & Bruce, 2018). This equips future educators to guide their students in navigating information effectively. Complementing this theoretical foundation are field experiences where pre-service teachers observe and assist seasoned educators. This real-world exposure allows them to bridge the gap between theory and practice, understanding how to implement their knowledge in a classroom setting.

Table 7 summarizes the effectiveness of different pedagogical approaches in teaching Bachelor of Elementary Education, presenting overall weighted mean scores and descriptive values. The table shows that all pedagogical approaches are deemed "very effective." Among the five pedagogical approaches, integrative ones were the most

effective, receiving the highest overall weighted mean of 4.82 with a descriptive value of "very effective." This implies that different teaching strategies and an integrative approach have a significant advantage in preparing future BEEd teachers. This holistic approach equips them to create engaging learning environments that promote memorization, critical thinking, information literacy, and the ability to connect knowledge across disciplines. El-Sherbiny and Al-Tantawi (2011) highlighted the significance of this approach, defining it as "a system that emphasizes the interconnected study of academic subjects, organized more by psychological principles than traditional structures, while not neglecting the societal benefits students derive from their learning."

Table 7. Summary of the results

Pedagogical Approaches	Overall Mean	Overall DV
1. Constructivism	4.64	Very effective
2. Inquiry-Based	4.68	Very effective
3. Reflective	4.72	Very effective
4. Collaborative	4.64	Very effective
5. Integrative	4.82	Very effective
Composite Mean	**4.70**	**Very effective**

Meanwhile, constructivism and collaborative approach both attained the lowest overall weighted mean score of 4.64 among the pedagogical approaches, though still categorized as "very effective." This indicates that their impact might be slightly less pronounced when used in isolation than in integrative pedagogy. Constructivism, which emphasizes individual knowledge construction through experiences and exploration, might need more breadth of exposure provided by integrative pedagogy's research activities and real-world experiences. Similarly, collaboration, though valuable for fostering communication and knowledge sharing (Johnson & Johnson, 2013), might offer a different depth of exploration or application across disciplines than seen in integrative approaches. However, the strengths of constructivism and collaborative learning might be amplified when strategically integrated within a broader framework like integrative pedagogy.

The composite mean for all approaches is 4.70, indicating that each approach effectively teaches Bachelor of Elementary Education. This finding implies that all five pedagogical approaches examined in this study – reflective, collaborative, integrative, constructivist, and reflective – hold value in preparing future educators. Taufiqurrochman and Rana (2021) reiterated that education is a long human process, but several approaches and strategies are needed to improve students` abilities. While education is a lifelong journey, employing diverse teaching methods and fostering student engagement are crucial for maximizing their learning potential.

3.7 Challenges and Issues Encountered

All indicators were rated as "moderate extent," as shown in Table 8, with an overall weighted mean of 3.17.

Table 8. Descriptive statistics of the challenges and issues encountered

Indicators	Mean	Interpretation
1. Lack of Access or Outdated Equipment that limits the types of technology-based approaches instructors can implement.	3.70	High
2. Faculty members do not have enough dedicated time to learn new technologies and integrate them effectively into their courses	2.65	Moderate
3. Technology-based approaches are time-consuming to set up and manage.	2.90	Moderate
4. Faculty members resist changing their teaching methods, even if they see the potential benefits of technology.	3.35	Moderate
5. Faculty members share common areas like labs or media centers, limiting their control over the learning environment for their specific approach.	3.65	High
6. Inadequate knowledge of varied teaching strategies and pedagogical approaches.	2.50	Slight
7. The assessment tools do not adequately reflect new pedagogical approaches.	2.70	Moderate
8. Developing assessments that align with new pedagogical approaches that take time and effort.	3.30	Moderate
9. Schools do not have the budget to provide flexible furniture, whiteboards, or other materials needed for active learning approaches.	3.85	High
Overall Mean	**3.07**	**Moderate**

This finding implies that Cagayan State University – Aparri Campus faculty members encountered moderate challenges when implementing various pedagogical approaches in the Bachelor of Elementary Education (BEEd) program. This indicates that there are no significant hurdles, and it is not completely smooth sailing for educators to use these methods. Among the identified challenges in implementing pedagogical approaches used in teaching

BEEd, the highest weighted mean, 3.85, reflects the challenge "Schools do not have the budget to provide flexible furniture, whiteboards, or other materials needed for active learning approaches" described as "great extent." This finding indicates that Cagayan State University – Aparri campus faculty members view this lack of resources as a major barrier to implementing active learning methods in their classrooms. Active learning approaches often require students to work collaboratively and move around the room, making flexible furniture and whiteboards crucial tools. This further implies that without these resources, faculty members of the College of Teacher Education at CSU–Aparri may struggle to create engaging environments that promote critical thinking, communication, and participation. This highlights a potential disconnect between educational best practices and the financial realities many schools face.

On the other hand, the lowest mean, 2.50, corresponds to "Inadequate knowledge on varied teaching strategies and pedagogical approaches," classified as "slight." This finding implies an interesting contrast. It indicates that faculty members, on average, view their knowledge of diverse teaching methods as a less significant hurdle than resource limitations. Perhaps faculty members feel confident in their existing repertoire of teaching strategies, even if those strategies might not be the most varied.

3.8 Comparison of the Assessment of Respondents on the Effectiveness of Pedagogical Approaches When Grouped by Profile

Table 9 compares the effectiveness of pedagogical approaches in teaching the Bachelor of Elementary Education (BEEd) program when grouped according to profile.

Table 9. Comparison test results on the assessment of the respondents on the level of effectiveness of pedagogical approaches used in teaching BEEd when grouped by profile

Variables	F-value	p-value	Statistical Inference
Type of respondent	0.256	0.799	Not significant
Sex	0.671	0.504	Not significant
Age	0.648	0.630	Not significant
Educational attainment	0.485	0.747	Not significant
Employment status	1.492	0.202	Not significant

*tested at 0.05 level of significance

As shown, it was found that all probability values exceed the standard significance threshold of 0.05. No statistically significant differences exist in how respondents assessed the effectiveness of pedagogical approaches used in teaching Bachelor of Elementary Education (BEEd) program when grouped according to profile. Hence, regardless of sex, age, educational attainment, employment status, and connection to Cagayan State University, the respondents have the same assessment of the effectiveness of pedagogical methods used in BEEd programs. This implies that the lack of significant differences might indicate that the Bachelor of Elementary Education (BEEd) program utilizes core pedagogical approaches across the curriculum. This could be due to guidelines established by the Commission on Higher Education (CHED) or the specific requirements of the CMO (Curriculum Memorandum Order) for BEEd programs. The CMO likely outlines specific pedagogical approaches that all BEEd programs must adhere to. This ensures consistency in teaching methods across institutions, potentially explaining why respondents from different backgrounds had similar assessments. By exploring CHED's policies and guidelines for BEEd programs, for instance, Republic Act No. 7787, also known as the Teacher Education Act of 1994, emphasizes the importance of equipping future educators with a strong foundation in pedagogy.

3.9 Comparison of the Extent of Problems Encountered When Grouped by Profile

Table 10. Comparison test results on the extent of problems encountered when grouped by profile

Variables	KW	p-value	Statistical Inference
Sex	0.014	0.905	Not significant
Age	5.909	0.206	Not significant
Educational attainment	9.122	0.028	**Significant**
Employment status	0.024	0.877	Not significant

*tested at 0.05 level of significance using the Kruskall-Wallis test (non-parametric)

Table 10 explores potential variations in the extent of problems faculty members encounter when implementing pedagogical approaches when grouped according to profiles. The analysis reveals that the respondents' extent of problems varies according to educational attainment, as reckoned by the f–value of 9.122 and its probability value of 0.028. This indicates that faculty members perceive challenges in implementation differently based on their level of education.

Post hoc analysis shows that faculty members with doctoral degrees (mean 17.63) reported encountering the most problems overall compared to those with master's degrees (mean 10.44). This finding implies that faculty members with doctorates may need help with a potential disparity between their theoretical knowledge and practical classroom experience. Their advanced degrees may have focused heavily on theory, leaving them needing more preparation to navigate practical implementation issues related to technology, facilities, learning environments, and assessment tools. This underscores the importance of professional development programs that equip educators, regardless of academic background, with the practical skills and tools necessary to effectively implement innovative teaching methods in the face of such challenges. This finding aligns with Hanushek et al. (2017), who emphasize the importance of advanced degrees, highlighting the need for professional development that bridges the gap between educational attainment and effective teaching practices.

4.0 Conclusion

The study revealed that pedagogical approaches employed in BEEd teaching are highly effective. Despite encountering moderate challenges, faculty members successfully implemented these strategies. To sustain and enhance the effectiveness of these approaches, faculty members should prioritize continuous professional development, strong communication, critical thinking, and technology skills. Furthermore, cultivating positive professional attributes will be instrumental in successfully implementing diverse pedagogical strategies. Future research could delve deeper into specific pedagogical approaches that yield optimal outcomes and explore strategies to mitigate challenges inside the classroom.

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7.0 Conflict of Interests

The authors declare no conflicts of interest about the publication of this paper

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Online Professional Learning Networks (OPLNs) Integrated to the Community of Inquiry (CoI) Model: Basis for Professional Development for Teachers

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Abstract. The findings of the Programme for International Student Assessment (PISA) revealed a significant concern: where Philippine school principals agreed or strongly agreed that teachers possessed the necessary technical and pedagogical skills to integrate digital devices into education, they also reported that a shortage of teaching staff hindered the school's capacity to provide instruction. This study assessed the perceived impact of Online Professional Learning Networks (OPLNs) integrated to the Community of Inquiry (CoI) framework on teacher professional development. Using a descriptive design, the study explored the impact of demographic profiles on OPLNs and their integration into the CoI model. The findings revealed that participation in OPLNs did not differ significantly based on respondents' demographic profiles. However, participation in OPLNs significantly impacted teaching performance, particularly in the CoI elements of "Teaching Presence" and "Cognitive Presence." However, the "Social Presence" element had no significant impact following OPLN integration. The prevalence of "Strongly Agree" ratings in the OPLNs sub-categories—Motivation, Design, and Sharing and Learning—highlighted OPLNs' effectiveness in promoting continuous learning and active participation among teachers. This suggests the vitality of ongoing professional development and positions OPLNs as effective tools for addressing issues such as limited opportunity for worldwide collaboration and interdisciplinary expertise. To receive the most benefits from OPLNs, educators and administrators should prioritize improving teaching and cognitive presence by encouraging critical thinking and facilitating organized discussions. These approaches have proven essential in improving educational outcomes and experiences. Furthermore, additional research should look into novel ways to improve "social presence" in OPLNs, such as including interactive elements, encouraging collaboration, and cultivating a supportive online community to increase learning satisfaction and engagement.

Keywords: Cognitive presence; Community of inquiry; Online professional learning networks; Teaching presence; Teachers professional development.

1.0 Introduction

In the rapidly evolving education landscape, the need for continuous professional development among teachers is paramount. With the surge in online education, exploring the impact of Online Professional Learning Networks (OPLNs) becomes essential for enhancing teacher competence in delivering quality instruction. One prominent pedagogical framework that aligns with this exploration is the Community of Inquiry (CoI) model (Garrison, 2018). The CoI model, emphasizing cognitive, social, and teaching presences, offers a comprehensive lens to assess and improve the online learning experience of teachers. Despite the growing interest in online professional learning, there is a notable gap in research regarding the efficacy of OPLNs, specifically in the Community of

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Inquiry model. This gap hinders a nuanced understanding of how OPLNs can effectively contribute to teacher competence and ICT sustainability engagement in instructional quality.

In the 2022 Programme for International Student Assessment (PISA), a global study by the Organization for Economic Cooperation and Development (OECD), the Philippines was positioned at the 77th spot among 81 participating countries. The findings of PISA revealed a significant concern: the Philippines exhibited the highest percentage of children attending schools where the principal agreed or strongly agreed that teachers possessed the necessary technical and pedagogical skills to integrate digital devices into education. This statistic stood at 90.3%, ranking the Philippines third out of 78 in 2018. In the same report, 43% of students in the Philippines were in schools where the principal reported that a lack of teaching staff hindered the school's capacity to provide instruction. Additionally, 19% of schools cited inadequate or poorly qualified teaching staff as hindering effective instruction (PISA 2022 Results (Volume I and II) - Country Notes: Philippines, 2023). This change underscores evolving challenges in the education system, highlighting the need to address staffing issues to ensure a conducive student learning environment.

Meanwhile, according to an EDCOM II (n.d) report, many DepEd teachers are underprepared to deliver the K-12 curriculum effectively. Dicdiquin et al. (2023) suggested that teachers must improve their teaching practices to meet the K-12 Curriculum goals effectively. Professional development for teachers in the Philippines is crucial, as Ngoho and Pañares (2023) highlighted that building professional connections significantly influences teachers' performance. However, research findings have identified a significant barrier to effective teaching in the Philippines: teachers' lack of pedagogical skills. School leaders in the Philippines recognized this skills gap, citing its impact on teaching quality (Chin et al., 2022). A hierarchical multiple regression study by Chin et al. (2022) revealed that teachers' pedagogical and information technology skills are primarily influenced by their previous professional development activities and desire to apply active learning and creative instructional techniques. Furthermore, teachers receive limited training despite the obvious need for professional development. Tribunalo and Ortizo (2023) suggested that providing technical assistance and continuous professional development (CPD) through DepEd offices could address genuine competency gaps and pertinent training needs for teachers' professional development and advancement.

Pupils' high achievement is closely tied to teachers' pedagogical knowledge, content skills, and instructional practices. Numerous efforts have been made to enhance teacher performance through diverse professional development programs (Trust et al., 2016). Teachers seek continuous learning and professional growth, moving beyond traditional development programs to embrace synchronous and asynchronous learning facilitated by technology. Professional Learning Networks (PLNs) play a significant role in keeping educators updated with educational trends, providing a platform for advice, opinions, and discussions (Trust & Prestridge, 2021). As teachers navigate the challenges of online distance learning, Online Professional Learning Networks (OPLNs) serve as valuable resources for engaging professionally with contemporary teaching tools. The study explores different OPLNs that teachers use to cope with unique teaching-learning pedagogies, aiming to enhance the quality of the public education system. Fiock (2020) emphasizes that building online communities positively impacts student learning, involvement, and motivation.

This dynamic model for an institutional approach, as proposed by Garrison (2018), shifts away from passive lectures and enhances the educational experience through collaborative thinking and learning. Educators connect across geographical boundaries through OPLNs, sharing experiences and best practices and bridging the gap between traditional and innovative teaching methods. Educators innovate around classroom instruction and strive to move educational methods from the industrial age to the knowledge age. OPLNs provide valuable insights, professional development, and platforms for implementing personalized blended learning to meet the unique needs of learners. In a time when the field is focused on changing the educational model to personalize learning for all students, blended learning emerges as a crucial lever for schools.

The earlier statement supports educators' pedagogical approaches and substantially contributes to their ongoing professional development, with the goal of improving student outcomes. It is consistent with the targets outlined in the Professional Philippines Professional Standards for School Heads (PPSSH) and Philippine Professional Standards for Teachers. Specifically, it focuses on the core tenets of PPSSH strand 4.3, which emphasizes the

development of strong professional networks; PPST strands 4.4, which emphasizes the importance of collaborative practices to improve teaching methodologies; and 4.5, which emphasizes the integration of diverse teaching and learning resources, including the use of information and communication technology. The claim, which incorporates empirical evidence from the study, illuminates how educators understand and implement the key concepts and strategies delineated within the framework and provides helpful insights into the success of these strategies in real-world educational settings. By adhering to established standards and utilizing data-driven approaches, this endeavor serves as a beacon for advancing pedagogical excellence and fostering a culture of continuous improvement in the educational landscape. Given those challenges cited, there is a clear need to look for novel approaches for teacher professional development. When integrated with the Community of Inquiry model, online professional learning networks offer a promising approach to addressing these gaps, promoting an atmosphere of collaboration, sharing of expertise, and encouragement for the continuous professional growth of teachers.

The study's results are expected to enrich our comprehensive understanding by shedding light on how digital devices can be harnessed and how teachers' technical and pedagogical skills can be leveraged within the teaching-learning process. This exploration specifically delves into online professional learning networks, employing the Community of Inquiry model.

2.0 Methodology

2.1 Research Design

Descriptive research methods were used to observe, document, and analyze the interactions in these online communities. The study used descriptive research to provide an in-depth understanding of how educators engaged, collaborated, and learned in these online environments. This method enabled the systematic collection of qualitative data, such as participant interactions, discussions, and reflections, which were vital to figuring out the dynamics of knowledge creation and sharing within OPLNs. Through detailed descriptions and analysis, the research sought to uncover patterns, themes, and insights that illuminated the effectiveness and challenges of using CoI-based frameworks in online professional development settings. The descriptive methods used in this study provided valuable insights into how digital platforms might facilitate meaningful learning experiences and promote ongoing professional development among teachers.

2.2 Research Participants

The study's respondents were elementary school teachers in Basic Education who were OPLN users in the Schools Division Office of Caloocan, Malabon, Navotas, and Valenzuela in the National Capital Region of the Philippines. One hundred two public elementary school teachers were the respondents. The fishbowl method of random sampling was employed to select the respondent schools. The names of the schools were written on pieces of typewriting paper of the same size, which were then rolled uniformly. These were placed in a transparent bowl and grouped by School Division Offices (SDOs). Each school was recorded in a notebook by the SDO. Additionally, a buffer of two schools per division was included in case any issues arose with the initially selected schools.

2.3 Research Instrument

The main data-gathering tool for this study was an eight (8)-page survey instrument comprising three (3) sections: Respondents Demographics, Online Professional Learning Networks (OPLNs), and Community of Inquiry by Garrison. An adapted questionnaire from Dr. Garrison was used for the Community of Inquiry section, and an email permission request was sent. After receiving consent, the researcher revised the instrument to integrate online professional learning networks and ensure that the questions were appropriate for the local context. The instrument was validated by the following three (3) experts related to this study: (1) the Curriculum Implementation Division (CID) Chief, (2) the Public Schools District Supervisor, and (3) the Principal, who were OPLN users. Having earned considerable knowledge in this field, they contributed significantly to improving the instrument used in the study. Similarly, validators were requested to utilize the instrument form's validations, where they indicated their assessments and comments as they inspected each item in the instrument. Criteria regarding relevance, clarity of language use, and correctness were also considered. The final instrument tool was developed considering all expert comments, revisions, and modifications.

To test the instrument's reliability, the questionnaires were pilot-tested with thirty (30) elementary public school teachers in SDO-Valenzuela as respondents. The Cronbach alpha for the reliability test was 0.97, interpreted as excellent. Therefore, the questionnaire's consistency and reliability were considered and satisfied.

2.4 Data Gathering Procedure

After obtaining the necessary permissions, the researcher administered the online survey by providing a link in Google Forms. Upon clicking the submit button within the online survey, data were automatically encoded in Excel, making the retrieval process simple and convenient. The generated data drawn were tallied, tabulated, and prepared for statistical computations and analysis.

2.5 Ethical Considerations

This research adhered to ethical standards, ensuring the voluntary participation of respondents who could withdraw at any time if they felt uneasy. Measures were taken to protect participants from harm—be it physical, social, psychological, or otherwise—ensuring their dignity and well-being were upheld. Confidentiality of the research data was maintained throughout the study, safeguarding respondents' rights and preserving academic integrity. Also, proper communication practices were strictly followed to prevent plagiarism or research misconduct.

3.0 Results and Discussion

3.1 Demographic Profile of the Respondents

As shown in Table 1, most respondents were between 31 and 40, accounting for 31.37%. Nineteen respondents, or 18.63%, were in the 20–30 age bracket. In contrast, 21.57% of respondents were over the age of 51, while 28.43% were between the ages of 41 and 50. Teachers are essential in promoting information and communications technology in the teaching-learning process. This aligns with the research conducted by Mahdi (2013), which investigated the impact of a teacher's age, experience, and gender on the utilization of ICT in language instruction. The study concluded that no substantial variations in the use of ICT were observed between the two categories of teachers, considering their varying experience levels or age.

Table 1. Distribution of the respondents according to age

Age	Frequency	Percentage
20 to 30 years old	19	18.63
31 to 40 years old	32	31.37
41 to 50 years old	29	28.43
51 and above	22	21.57
Total	**102**	**100.00**

As shown in Table 2, out of the 102 respondents, the distribution across different School Division Offices (SDOs) was as follows: SDO-Caloocan comprised 39 respondents, representing 38.24% of the total sample. Following closely, SDO-Valenzuela accounted for 31 respondents, constituting 30.39% of the sample. SDO-Malabon contributed 21 respondents, making up 20.59% of the total, while SDO-Navotas had 11 respondents, representing 10.78% of the sample. Notably, SDO-Navotas is among the four divisions in the CAMANAVA area and is classified as one of the smaller divisions within the National Capital Region.

Table 2. Distribution of the respondents according to division

Division	Frequency	Percentage
SDO-Caloocan	39	38.24
SDO-Malabon	21	20.59
SDO-Navotas	11	10.78
SDO-Valenzuela	31	30.39
Total	**102**	**100.00**

Table 3 presents the profile of the respondents according to the grade level assignment. The combined percentage for the Key Stage 1 (KS1), which consists of Kindergarten, Grades 1, 2, and 3, was 45.09%, with kindergarten receiving 8.82%, Grade One receiving 11.76%, Grade Two receiving 6.86%, and Grade Three receiving 17.65%. While in Key Stage 2 (KS2), Grade 4 had a response rate of 22.55%, Grade 5 was 16.67%, and Grade 6 was 15.69%, totaling 54.91%. Most respondents were in KS2, garnering a total percentage of 54.91%. This demonstrates that a significant number of our teachers in KS2 are active participants in online professional learning networks (OPLN).

They find that the OPLN is an excellent spot to collaborate with other professionals in an online platform that can aid their teaching careers.

Table 3. Distribution of the respondents according to grade level

Grade Level	Frequency	Percentage
Kindergarten	9	8.820
Grade 1	12	11.76
Grade 2	7	6.860
Grade 3	18	17.65
Grade 4	23	22.55
Grade 5	17	16.67
Grade 6	16	15.69
Total	**102**	**100.00**

One of the profile items is the educational attainment of the respondents. Table 4 shows that the Master of Arts with units got the highest share in the group, with 44 or 43.14%. In the second spot, a bachelor's Degree garnered 23.53% or 24 of the respondents, followed by Master's Degree holders with 18 or 17.65%, respectively. The least was PhD with units and PhD Degrees, with 10 and 6 respondents, or 9.80% and 5.88%, respectively. Nowadays, it is vital to consider obtaining degrees or postgraduate programs in addition to graduating from college, as this is the current trend in education. Consequently, most of the teachers who participated in the Online Professional Learning Network are pursuing a master's degree; the knowledge they gained in both graduate school and the online professional network enabled them to carry out their daily teaching and learning activities efficiently.

Table 4. Distribution of the respondents according to educational attainment

Educational Attainment	Frequency	Percentage
BS Degree	24	23.53
MA w/ units	44	43.14
MA Degree	18	17.65
PhD w/ units	10	9.800
PhD Degree	6	5.880
Total	**102**	**100.00**

The frequency and percentage distribution of respondents by teaching position are displayed in Table 5. Thirty-six (36) respondents, or 35.29%, occupied a position as a Teacher I, followed by twenty-seven (27) teachers, or 26.47%, who held a Teacher III position, and eighteen (18) teachers who were in a position as a Master Teacher I. In contrast, fourteen (14) respondents came from the rank of Teacher II, and only seven (7), or 6.86%, were in the higher rank of Master Teacher II, the teaching position with the highest compensation.

Table 5. Distribution of the respondents according to position/teaching rank

Teaching Position	Frequency	Percentage
Teacher I	36	35.29
Teacher II	14	13.73
Teacher III	27	26.47
Master Teacher I	18	17.65
Master Teacher II	7	6.86
Master Teacher III	0	0.00
Total	**102**	**100.00**

Table 6 displays the distribution of respondents based on their tenure in the teaching field. 40.20% of the respondents came from the 4-10 years employment span, while 25.49% were employed for about 16 years and above. However, 21.57% of them came from the group of 3 years and below. Consequently, thirteen (13) or 12.75 percent of the respondents belong to the 11 to 15 years of service group. The data conveys that even respondents who have been in the workforce for 16 years or longer were still able to understand and improve their contemporary skills and still interact with others through online professional learning networks for the benefit of their learners to deliver high-quality instruction and continue to meet the needs of our 21st-century learners.

Table 6. Distribution of the respondents according to the number of years in service

Years	Frequency	Percentage
3 years and below	22	21.57
4 – 10 years	41	40.20
11 – 15 years	13	12.75
16 years and above	26	25.49
Total	**102**	**100.00**

Table 7 exhibits the respondents' usage of online professional learning networks regarding frequency and percentage distribution. It reveals that most of the respondents consisting of 74.51% or seventy-six (76), use OPLN daily. This is followed by 14.71% or fifteen (15) respondents, who claim to use an online professional learning network three to four (3-4) times per week. Twice a week obtained a percentage rate of 3.92% or four (4) respondents, and only one (1) of the respondents said that she/he is not using or integrating an online professional learning network in the teaching-learning process, which earned 0.98%.

Table 7. Distribution of the respondents according to the frequency of using an OPLN

OPLN Usage	Frequency	Percentage
Not used at all	1	0.980
Once a week	4	3.920
Twice a week	6	5.880
3 – 4 times a week	15	14.71
Daily	76	74.51
Total	**102**	**100.00**

The data in Table 8 shows that 45 respondents, or 44.12% of the sample, spent an average of 3–4 hours per day using online professional learning networks. 36 (35.29%) of the respondents utilized OPLN for an average of 1-2 hours. Following that, fourteen (14) respondents, or 13.73%, engaged in an online professional learning network (OPLN) for an average of five to six hours. Only seven (7) respondents, or 6.86%, said they made the most of their time by participating in online professional learning networks, which take an average of 7-8 hours. Prenger et al. (2021) noted that participants reported spending about eight (8) hours per month working on PLN activities. The external coach pointed out that this group's collaboration was healthy, while the teachers said the environment was welcoming and optimistic.

Table 8. Distribution of the respondents according to the average time spent using OPLN

Time	Frequency	Percentage
1 – 2 hours	36	35.29
3 – 4 hours	45	44.12
5 – 6 hours	14	13.73
7 – 8 hours	7	6.86
Total	**102**	**100.00**

3.2 Assessment of Online Professional Learning Networks (OPLNs) Engagement Using Community of Inquiry

In terms of Teaching Presence

Table 9 clearly shows that a significant proportion of respondents rated their teaching performance as "Strongly Agree" after integrating OPLN into the teaching-learning process, as evidenced by the grand weighted mean of 4.46. This implies that after utilizing the Online Professional Learning Network (OPLN), their teaching performance improves in the "teaching presence" variable.

Two statements under the sub-variable "Design and Organization" within the teaching presence—Statement number 3, "Communicates important dates/time frame for learning activities," and item number 1, "Communicates important topics and goals"—achieved the highest mean scores of 4.51 and 4.50, respectively, corresponding to a verbal interpretation of "strongly agree." These findings suggest that collaboration with other professionals online enhances respondents' teaching presence by providing valuable information and learning experiences that greatly assist them in facilitating the teaching-learning process in their respective classes.

Table 9. Descriptive statistics of the assessment of OPLNs' engagement using CoI in terms of teaching presence

	Indicators	Mean	Interpretation
OPLNs in CoI (Teaching Presence)	**A. Design & Organization**		
	1. Communicate important topics and goals.	4.50	Strongly Agree
	2. Provide clear instructions on how to participate in OPLN.	4.46	Strongly Agree
	3. Communicates important dates/time frames for learning activities	4.51	Strongly Agree
	B. Facilitation		
	4. Helps identify areas of agreement and disagreement on learning topics that help one another.	4.40	Strongly Agree
	5. Helps in guiding others towards understanding. That way, it helps clarify thinking.	4.42	Strongly Agree
	6. Helps to keep others engaged and participate in productive dialogue.	4.46	Strongly Agree
	7. Helps keep participants on task in a way that helped me to learn.	4.46	Strongly Agree
	8. Encourages others to explore new concepts of learning.	4.46	Strongly Agree
	9. Reinforces community engagements for development, among others.	4.46	Strongly Agree
	C. Direct Instructions		
	10. Helps to focus discussion on relevant issues in a way that helps one another.	4.45	Strongly Agree
	11. Provides behavioral and performance feedback to help others adjust to weaknesses and maintain strengths.	4.46	Strongly Agree
	12. Provides feedback promptly.	4.43	Strongly Agree
Grand Mean		**4.46**	**Strongly Agree**

Legend: "Strongly Disagree (1.00 – 1.80)", "Disagree (1.81 – 2.60)", "Neutral (2.61 – 3.40)", "Agree (3.41 – 4.20)", "Strongly Agree (4.21 – 5.00)"

These results align with Martin et al. (2022), who emphasized the importance of design in fostering effective teaching presence. Specifically, designing for open communication and trust, facilitating critical reflection and discourse, and creating and sustaining a sense of community are crucial elements in enhancing teaching presence and facilitating meaningful online learning experiences. Six (6) items were obtained from the twelve statements with the same weighted mean of 4.46, which was verbally translated as "strongly agree." These statements are "Provides clear instructions on how to participate in OPLN," "Helps to keep others engaged and participate in productive dialogue," "Helps keep participants on the task in a way that helped me to learn," "Encourages others to explore new concepts of learning," "Reinforces community engagements for development among others," and "Provides behavioral and performance feedback to help others adjust to weaknesses and maintain strengths."

However, statement item number 10, "Helps to focus discussion on relevant issues in a way that helps one another," received a mean score of 4.45, and statement in item number 12, "Provides feedback promptly," had a mean of 4.43, item number 5 "Helps in guiding others towards understanding that way it helps clarify thinking" mean of 4.42. Statement 4, "Helps identify areas of agreement and disagreement on learning topics that help one another," garnered a mean of 4.40; the items statement indicated are verbally described as "strongly agree."

Central to the Community of Inquiry (CoI) framework, teaching presence improves cognitive and social engagement by encouraging student discussion and active learning. Stone and Springer (2019) emphasize its importance in online student engagement, calling for better design and delivery in educational institutions. Interviews promote establishing connections in virtual environments where student engagement can be challenging. Effective teaching presence, which is critical for social and cognitive development (Tolu, 2013, as cited in Bertz, 2021), has a strong correlation with student satisfaction, perceived learning, and community sense (Akyol & Garrison, 2008; Arbaugh, 2008; Shea & Bidjerano, 2009; Tolu, 2013, as cited in Bertz, 2021). According to the framework and learning environment procedures, teaching presence creates sharing and interaction among learners and educators, resulting in effective learning outcomes.

In terms of Social Presence

Table 10 shows that most of the respondents' assessment of their teaching performance after integrating Online Professional Learning Networks (OPLNs) in the teaching-learning process in the component of "Social Presence" is "strongly agree," as manifested on the grand weighted mean, which is 4.25. This implies that their teaching performance improves after engaging in OPLN, particularly in the component variable of "social presence." The subcomponent of social presence variables is "affective expression," open communication," and group cohesion."

The three most significant statements that receive high mean scores are item 21, "Online community helps leverage support in ICT-based instructions in the teaching-learning process" ($\bar{x}$=4.30), item number 13, "Gets to know others in an Online Community that gives me a sense of belongingness" ($\bar{x}$=4.29), and item 14 "I was able to form distinct impressions to some of the participants" ($\bar{x}$=4.28), which is all verbally interpreted as "strongly agree".

The results revealed that online community helps leverage support in ICT-based instructions in the teaching-learning process. To understand the content being delivered online, collaboration between the teacher and the student in social presence is essential (Nasir, 2020).

Table 10. Descriptive statistics of the assessment of OPLNs' engagement using CoI in terms of social presence

	Indicators	Mean	Interpretation
OPLNs in CoI (Social Presence)	**A. Affective expression**		
	13. Get to know others in an Online Community that gives me a sense of belongingness.	4.29	Strongly Agree
	14. I could form distinct impressions to some of the participants.	4.28	Strongly Agree
	15. I agree that online or web-based communication is an excellent medium for social interaction.	4.25	Strongly Agree
	B. Open communication		
	16. I feel comfortable conversing through online mediums.	4.23	Strongly Agree
	17. I feel comfortable learning with others in online community discussions.	4.26	Strongly Agree
	18. I feel comfortable interacting /learning with other participants in online community discussions.	4.26	Strongly Agree
	C. Group cohesion		
	19. I feel comfortable disagreeing with other participants while still maintaining a sense of trust.	4.13	Agree
	20. Online discussion helps me to develop a sense of collaboration.	4.24	Strongly Agree
	21. Online community helps leverage support in ICT-based instructions in the teaching-learning process.	4.30	Strongly Agree
Grand Mean		**4.25**	**Strongly Agree**

Legend: "Strongly Disagree (1.00 – 1.80)", "Disagree (1.81 – 2.60)", "Neutral (2.61 – 3.40)", "Agree (3.41 – 4.20)", "Strongly Agree (4.21 – 5.00)"

It has also been noted that other statements earned high mean scores from the respondents that will support the claims of the significance of OPLN in the component of "social presence" in the three (3) subcomponents that received a verbal description interpretation of "strongly agree," with the exception on item number 19 "I feel comfortable disagreeing with other participants while still maintaining a sense of trust" ($\bar{x}$=4.13), under subcomponent "group cohesion."

After participants joined the Open and Professional Learning Network (OPLN), a thorough analysis revealed that within the social presence domain, the component of Group Cohesion received the lowest mean score among the three components. However, despite this, the mean score for Group Cohesion was 4.22, which is still interpreted as "strongly agree." This suggests that, even though Group Cohesion initially had the lowest mean among the social presence components, respondents generally expressed a high level of agreement regarding the effectiveness of group cohesion after their involvement in OPLN.

Lowenthal and Dunlap (2018) highlight the closely intertwined nature of a sense of belonging and commitment to a group with group cohesion, emphasizing its connection to the development of social presence, open communication, and emotional expression. This observation implies that respondents experienced an improvement in group cohesion following their engagement with OPLN, even if it was initially perceived as the least strong component. The high mean score of 4.22 indicates a positive shift in respondents' perceptions, reflecting a strong agreement that group cohesion was effectively enhanced through their participation in the professional learning network.

Other items in the social presence component of the community of inquiry model that were evaluated after the involvement of OPLN received the following mean scores: items 17, "I feel comfortable participating in learning with others in online community discussions," 18 "I feel comfortable interacting /learning with other participants in online community discussions" ($\bar{x}$=4.26), 15 "I agree that online or web-based communication is an excellent medium for social interaction" ($\bar{x}$=4.25), 20 "Online discussion helps me to develop a sense of collaboration" ($\bar{x}$=4.24), and 16 "I feel comfortable conversing through an online medium" ($\bar{x}$=4.23), all of the statements in that items are verbally describe as "strongly agree."

Engagement in an online professional learning network can profoundly affect teaching presence within the Community of Inquiry (CoI) framework. In line with research, PLNs increase teachers' motivation, satisfaction, and self-efficacy, boosting their teaching skills and practices (Zheng et al., 2023). The CoI framework illustrates the necessity of teacher presence in online collaborative learning environments (Ohayon, 2023). Besides social and cognitive presence, teaching presence is critical for instilling positive attitudes toward long-term remote learning (Burbage et al., 2023; Sun & Yang, 2023). Thus, participating in online professional learning networks can help

strengthen teaching presence within the CoI framework, resulting in improved instructional techniques, elevated self-efficacy, and more favorable perspectives toward learning.

In terms of Cognitive Presence

Table 11 reveals that most of the respondents' assessment of their teaching performance after integrating OPLN in the teaching-learning process in the variable of Cognitive Presence is "Strongly Agree" as manifested on the grand weighted mean of 4.46. This indicates that their teaching performance has enhanced after integrating Online Professional Learning Networks (OPLNs).

Table 11. Descriptive statistics of the assessment of OPLNs' engagement using CoI in terms of cognitive presence

	Indicators	Mean	Interpretation
OPLNs in CoI (Cognitive Presence)	**A. Triggering event**		
	22. Problems posed increase my interest in OPLN issues.	4.39	Strongly Agree
	23. OPLN activities pique my curiosity.	4.35	Strongly Agree
	24. I feel motivated to explore content-related questions.	4.45	Strongly Agree
	B. Exploration		
	25. I utilize a variety of information sources to explore problems posed in OPLN.	4.46	Strongly Agree
	26. Brainstorming and finding relevant information help me resolve content-related problems/issues.	4.41	Strongly Agree
	27. Online discussions were valuable in helping me appreciate different perspectives.	4.41	Strongly Agree
	C. Integration		
	28. Combining new information helps me enhance my capabilities in supporting pedagogical instructions.	4.57	Strongly Agree
	29. Learning activities help me construct various teaching materials that can be employed in teaching learning instructions.	4.57	Strongly Agree
	30. Reflection on content and discussions helps me understand fundamental concepts in class interactions.	4.52	Strongly Agree
	D. Resolution		
	31. I can demonstrate and apply this to my day-to-day teaching.	4.48	Strongly Agree
	32. I have developed solutions to problems that can be applied in practice through OPLN.	4.44	Strongly Agree
	33. I can apply the knowledge gathered in OPLN to my day-to-day teaching /learning process.	4.43	Strongly Agree
Grand Mean		**4.46**	**Strongly Agree**

Legend: "Strongly Disagree (1.00 – 1.80)", "Disagree (1.81 – 2.60)", "Neutral (2.61 – 3.40)", "Agree (3.41 – 4.20)", "Strongly Agree (4.21 – 5.00)"

The cognitive presence has four (4) subcomponents, namely: "triggering event," "Exploration," "Integration," and "resolution." All statements under this variable received a verbal description interpretation of "strongly agree." Among the subcomponents, statements from "integration" receive a high mean response score. These statements come from item 28, "Combining new information helps me enhance my capabilities in supporting pedagogical instructions" ($\bar{x}$=4.57), item 29," Learning activities help me construct varieties of teaching materials that can be employed in teaching learning instructions" ($\bar{x}$=4.57), and item 30 " Reflection on content and discussions helps me understand fundamental concepts in class interactions" ($\bar{x}$=4.52). The belief that one can successfully use technology to complete a learning task is known as technological self-efficacy (Pan, 2020). Teachers frequently feel anxious when using new technical tools to teach (Larson et al., 2020). Lack of technological proficiency is one of the main personal difficulties for teachers (Herro et al., 2021).

Statements from the subcomponent "resolution" took the second rank; these are in item number 31 "I can demonstrate and apply this to my day-to-day teaching," with a mean of 4.48, item 32 "I have developed solutions to problems that can be applied in practice through OPLN" with a mean of 4.44, and item 33 "I can apply the knowledge gathered in OPLN to my day-to-day teaching /learning process" with a mean of 4.43. All three statements are verbally described as "strongly agree." According to Binder (2022), the type of eLearning media tools used can significantly affect social presence. According to Borba et al. (2018), online learning has an effect on involvement and interaction that is distinct from those in a physical environment. For instance, Lowenthal and Dunlap (2018) found that interactions and discussions in virtual educational settings enabled students to interact with fellow learners. However, some technologies and strategies were more well-liked for enhancing social presence than others.

The statements "Problems posed increase my interest in OPLN issues," "OPLN activities pique my curiosity," and "I feel motivated to explore content-related questions," each obtained a mean score of 4.39, 4.35 and 4.45, respectively, under the category "triggering event," which is verbally interpreted as "strongly agree." Additionally, the statements in the subcomponent "exploration" receive a mean of 4.46 and 4.41, in the statements "I utilize a

variety of information sources to explore problems posed in OPLN," "Brainstorming and finding relevant information help me resolve content-related problems/issues," and "Online discussions were valuable in helping me appreciate different perspectives" which was verbally interpreted as "strongly agree."

These findings show that the assessment mean result is at high levels in integration ($\bar{x}$=4.55) and resolution ($\bar{x}$=4.45). The same findings noted in the previous studies have been consistent with findings that student's actual cognitive presence frequently stayed at the low level of the exploration phase more than at the higher levels of integration or resolution phases (Bissessar et al., 2020; Galikyan & Admiraal, 2019; Kilis & Yildirim, 2019). On the contrary, other studies found that actual students' cognitive presence could stay at a higher level of integration and resolution; it depends on the assignment type, facilitation style, and delivery mode (Akyol & Garrison, 2008; Chen et al., 2019; Molnar & Kearney, 2017; Sadaf et al., 2020). Findings that cognitive presence could stay at higher integration and resolution phases are consistent across graduate and undergraduate students (Akyol et al., 2011; Olesova et al., 2016).

The cognitive presence variable was subdivided into four subcomponents: "triggering event," "exploration," "integration," and "resolution." Remarkably, all statements under these subcomponents received a verbal interpretation of "strongly agree." However, within these subcomponents, statements under "triggering event" received the lowest mean response, with a score of 4.39, still verbally described as "strongly agree." Noteworthy statements within this subcomponent include: "Problems posed increase my interest in OPLN issues," "OPLN activities pique my curiosity," and "I feel motivated to explore content-related questions."

This consistent "strongly agree" response across all cognitive presence subcomponents suggests high engagement and positive perception among respondents. Despite "triggering event" receiving the lowest mean score, the numerical value of 4.39 still indicates a strong agreement with the statements, emphasizing a strong positive response to elements related to generating interest, curiosity, and motivation in the context of OPLN issues. The statements within the "triggering event" subcomponent imply that respondents find challenges or problems posed within OPLN activities stimulating and motivating. This positive engagement is crucial for fostering a dynamic and active cognitive presence where participants are receptive and enthusiastic about exploring and resolving issues within the professional learning network.

Moore and Miller (2022) summarized the research, concentrating on strategies teachers can employ to foster students' cognitive presence. Reaching higher cognitive presence phases, such as integration and resolution, was uncommon, but Moore and Miller (2022) found it was still ideal. They confirmed that teachers must match their instructional goals with the learning outcomes at the proper levels of cognitive presence phase to encourage higher levels of cognitive presence phases. It should be noted that any instruction does not necessarily aim to raise cognitive presence levels; rather, the question is which learning goals, such as exploration or integration, will promote those levels of cognitive presence. Furthermore, to promote the growth of cognitive presence, Moore and Miller (2022) also suggested making clear involvement guidelines, identifying various methods to incorporate technology, and creating structured discussion forums.

3.3 Perceived Impact of Online Professional Learning Networks (OPLNs) Engagement

In terms of Motivation

Table 12 reveals that a computed grand weighted mean of 4.23 indicates that a considerable majority of respondents strongly agree that participation with Online Professional Learning Networks (OPLNs) positively improves the teaching-learning process in terms of "Motivation." The results indicate that teachers successfully apply OPLN-acquired knowledge in practice and see positive changes across teaching, social, and cognitive presences in their professional roles. Items 3 and 4, "I practiced what I learned from OPLNs and received a favorable rating from my Classroom Observation Tool (COT)" and "Following my participation with OPLNs, the three distinctive presences in my teaching profession changed," both earned a mean score of 4.24, categorized as "Strongly Agree."

Table 12. Descriptive statistics of the impact of OPLNs' engagement on the teaching-learning process in terms of motivation

Indicators		Mean	Interpretation
Online Professional Learning Networks (OPLNs)	**A. Motivation**		
	1. I found online professional support that aids my daily teaching practices.	4.27	Strongly Agree
	2. My perspectives on the teaching strategy have changed due to OPLNs.	4.17	Agree
	3. I practiced what I learned from OPLNs and received a favorable rating from my Classroom Observation Tool (COT).	4.24	Strongly Agree
	4. Following my participation with OPLNs, the three distinctive presences in my teaching profession changed.	4.24	Strongly Agree
	5. Besides the knowledge I have gained through OPLNs, they have helped me advance professionally.	4.25	Strongly Agree
Grand Mean		**4.23**	**Strongly Agree**

Legend: "Strongly Disagree (1.00 – 1.80)", "Disagree (1.81 – 2.60)", "Neutral (2.61 – 3.40)", "Agree (3.41 – 4.20)", "Strongly Agree (4.21 – 5.00)"

Item number 1, "I found online professional support that aids in my day-to-day teaching practices," had a mean score of 4.27 out of the items evaluated, indicating an overwhelming consensus among teachers regarding the importance of OPLNs in supporting their teaching roles. This indicates that teachers find Online Professional Learning Networks (OPLNs) valuable tools they may use to improve their teaching methods. Item number 5, "In addition to the knowledge I have gained through OPLNs, they have helped me advance professionally," received a mean score of 4.25, also classified as "Strongly Agree." This suggests that OPLNs are essential to career development and growth beyond simple knowledge acquisition and contribute significantly to teachers' professional advancement. Item number 2, 'My perspectives on teaching strategy have changed due to OPLNs,' received the lowest mean of 4.17 among the items in the variable under 'motivation,' suggesting a generally agreed-upon response. This indicates that OPLNs influence teaching strategies, although the extent of perspective change may vary depending on specific teaching situations and past experiences.

Ultimately, the high ratings for these categories show that OPLNs strongly impact teachers' motivation. The findings indicate how highly valued they are in offering helpful assistance, influencing instructional practices, encouraging professional growth, and having an advantageous impact on several areas of teachers' careers. These results demonstrate the transforming impact of OPLNs in inspiring and enabling teachers to achieve professional growth and excellence in their teaching practices.

Participating in Online Professional Learning Networks (OPLNs) significantly impacts the teaching and learning process, particularly regarding motivation. Studies conducted during the COVID-19 pandemic discovered that online learning faced challenges such as decreased student motivation due to unreliable Internet access and changes in teaching methods (Riyadi & Sudiyatno, 2023; Chouinard et al., 2022). Despite these challenges, online learning has been shown to increase student motivation, improve learning processes, and improve learning outcomes over time, demonstrating its long-term motivational benefits (Apoko & Sya'ban, 2022). Previous research has highlighted the critical role of motivation in online learning success, particularly in social sciences and vocational subjects, emphasizing its importance in promoting effective learning (Utami et al., 2023).

In terms of Design

Table 13 shows that, with a computed weighted mean of 4.21, most respondents strongly agree that using Online Professional Learning Networks (OPLNs) has a favorable impact on the teaching-learning process in terms of "Design."

Table 13. Descriptive statistics of the impact of OPLNs' engagement on the teaching-learning process in terms of design

Indicators		Mean	Interpretation
Online Professional Learning	**B. Design**		
	6. I gathered various classroom technological strategies after engaging with OPLN.	4.29	Strongly Agree
	7. When integrating technological platforms, I have learned from OPLNs that my pupils are eager to learn from the discussion.	4.22	Strongly Agree
	8. I received awards and recognition as a result of integration into the teaching-learning process.	4.13	Agree
Grand Mean		**4.21**	**Strongly Agree**

Legend: "Strongly Disagree (1.00 – 1.80)", "Disagree (1.81 – 2.60)", "Neutral (2.61 – 3.40)", "Agree (3.41 – 4.20)", "Strongly Agree (4.21 – 5.00)"

The item with the highest mean score, "I gathered various classroom technological strategies after engaging with OPLNs" (item number 6), showed that teachers perceived OPLNs as helpful resources for learning and implementing new technological strategies. With a mean score of 4.22, item 7, "When I integrate technological platforms, I have learned from OPLNs, my pupils are eager to learn from the discussion," demonstrates how these tools actively engage students and improve instructional strategies. Item number 8, "I received awards and recognition as a result of integration into the teaching-learning process," had a mean score of 4.13, or "Agree," indicating that although a large number of teachers gain from online professional learning networks, there is a lack of The high overall results show that respondents generally agree that OPLNs have a positive design impact, especially when it comes to learning new digital skills and involving pupils. However, the lower agreement on awards and recognition emphasizes how important it is for educational institutions to properly support and value the efforts made by instructors to improve the teaching-learning process.

Table 13 highlights the essential part OPLNs play in providing teachers with useful technology tools and creating a stimulating learning environment. It also points out the possibility of increased institutional recognition and support for OPLNs. Online Professional Learning Networks (OPLNs) improve teaching-learning by encouraging active participation and collaborative design (Shively & Geesa, 2023). These networks provide teachers with ongoing and adaptable tools to create effective online learning environments that promote creativity, integrate arts, and foster active teaching practices (Anderson et al., 2022). Participating in design thinking exercises within these networks allows teachers to pinpoint challenges, generate solutions, and receive peer feedback, ultimately improving their skills in digital teaching and learning (Shively & Geesa, 2023). Furthermore, OPLNs use networked learning approaches to transform experiences, foster peer relationships, encourage innovative experimentation, and enable educator collaboration, resulting in more dynamic, self-reflective, and creative online learning environments (Vallis et al., 2022). This collaborative and novel strategy addresses challenges in online teaching and improves the overall effectiveness of creating online professional learning environments (Vallis et al., 2022).

In terms of Sharing and Learning

Table 14. Descriptive statistics of the impact of OPLNs' engagement on the teaching-learning process in terms of sharing and learning

Indicators		Mean	Interpretation
Online Professional Learning Networks (OPLNs)	**C. Sharing and Learning**		
	9. After joining one of the OPLNs, I learned most of the essential information that can be integrated into my teaching practices.	4.30	Strongly Agree
	10. OPLNs influence my teaching strategies.	4.19	Agree
	11. OPLNs aid in the delivery of quality instruction during the teaching-learning process.	4.23	Strongly Agree
	12. Pupils' participation and achievement rate increase after involvement from OPLNs.	4.28	Strongly Agree
	13. OPLNs enhance my teaching, social, and cognitive presence as a teacher.	4.24	Strongly Agree
Grand Mean		**4.25**	**Strongly Agree**

Legend: "Strongly Disagree (1.00 – 1.80)", "Disagree (1.81 – 2.60)", "Neutral (2.61 – 3.40)", "Agree (3.41 – 4.20)", "Strongly Agree (4.21 – 5.00)"

Table 14 reveals a computed grand weighted mean of 4.25, which indicates a high degree of agreement among respondents that participation in Online Professional Learning Networks (OPLNs) significantly impacts the teaching-learning process in terms of "Sharing and Learning." Table 15 clearly shows that the majority of respondents strongly agree on this point. Four of the five statements assessed were rated as "Strongly Agree." The respondents' perceived benefits are reflected in the statements ranked based on their mean weighted averages. "I learned most of the essential information that can be integrated into my teaching practices after joining one of the OPLNs" was the highest-rated statement (item number 9), with a mean score of 4.30. This implies that OPLNs are an important source of pertinent and useful knowledge for educators.

Item number 12, "Pupils' participation and achievement rate increase after involvement from OPLNs," emphasizes the perceived beneficial impact on respondents' engagement and performance, with a mean score of 4.28. This implies that the advantages of OPLNs extend beyond the educators to their pupils, improving learning results all around. With means of 4.24 and 4.23, respectively, items number 13 ("OPLNs enhance my teaching, social and cognitive presence as a teacher") and number 11 ("OPLNs aid in the delivery of quality instruction during the

teaching-learning process") reveal that OPLNs are thought to improve teaching, social and cognitive presence, and assist in providing quality instruction. These responses highlight how OPLNs play a multifarious role in enhancing teachers' professional capacities and the efficacy of their instructional practices. The results of item number 10, "My teaching strategies are influenced by OPLNs," on the other hand, indicate that although OPLNs have a large influence, other factors or resources may also have a significant impact. This item received a slightly lower mean of 4.19 and was verbally responded to as "Agree."

The data strongly supports Online Professional Learning Networks (OPLNs) as effective professional development and instructional improvement tools. High scores on various indicators indicate widespread recognition of their role in improving learner outcomes and instructional methods. OPLNs are effective professional interaction platforms that provide educators with essential information for classroom instruction. Participants highlight benefits such as improved teaching strategies, increased awareness of current trends, and opportunities for cross-cultural collaboration, especially beneficial to new teachers. However, access to high-quality professional development opportunities remains a concern, with many lacking relevance, authority, or timeliness. OPLNs enable collaboration and idea exchange regardless of time or location, promoting global connections and interdisciplinary learning. Increasing the teacher's networking awareness could help them create Personal Learning Networks (PLNs), fostering diverse and extensive professional connections (Van Waes et al., 2018; Alwafi, 2021).

According to Brown and Poortman (2018) and Doan and Adams (2018), professional learning networks (PLNs) are any group that participates in collaborative learning with other people outside of their constant community of practice to enhance teaching and learning that were linked to enhancements in the technique of instruction. A promising strategy for achieving continuous school improvement is using professional learning networks (PLNs) for educators. According to Portman (2022), Networked learning environments and PLCs rest on comparable assumptions concerning how teachers acquire knowledge and modify their practice.

This Online Professional Learning Network (OPLN) will constitute a "teacher-driven" worldwide community that will provide assistance that reduces distance and fosters independence. Through motivation, design, and sharing and learning, online professional learning networks (OPLNs) significantly impact teaching performance. OPLNs, which offer virtual spaces for teachers to interact, share resources, and have discussions, have the highest mean score (4.25) for sharing and learning, followed by motivation (4.23) and design (4.21). This promotes creativity, expands knowledge, and improves instructional strategies. While well-designed platforms enable productive interactions, motivation fosters ongoing development. Enhancing teaching abilities and overall performance through the utilization of pooled expertise within OPLNs fosters an engaging professional learning community.

3.4 Significant Difference of Respondents' Demographic Profile and Online Professional Learning Networks (OPLNs) Engagement

Table 15 shows the significant difference in the respondents' demographics after experiencing Online Professional Learning Networks (OPLNs). It shows that all of the respondents' demographics are insignificant, as manifested by its computed p-values greater than the set level of significance at 0.05, which led to the acceptance of null hypotheses. This indicates that respondents' profiles have nothing to do with their teaching performance after experiencing Online Professional Learning Networks (OPLNs). The p-values for the age (0.442), division (0.690), educational attainment (0.411), grade level (0.851), teaching position (0.975), years in the teaching profession (0.233), and frequency of using OPLN (0919) in the eight demographic profiles of the respondents are all greater than the predetermined level of significance at 0.05. As a result, the null hypothesis is accepted, and comments are deemed to be insignificant.

According to the findings, the respondents' demographics are not significant. However, gathering demographic data can aid in filling these critical informational gaps, improving awareness and fairness during action, and better organizing training resources so that decisions concerning programs, dissemination, and funding can be made efficiently. People's demographic information is crucial for determining current trends and conducting precise and targeted learning opportunities. Demographic information about users of online professional learning networks is considered to gain a deeper understanding, find prospective collaborations, and create efficient long-term strategies.

Table 15. Analysis of the difference in the respondents' OPLNs engagement when grouped according to demographic profile

Demographic Profile	Categories	Mean	p-values	Decision	Remarks
Age	20 to 30 years old	4.62	0.442	Accept Ho	Not Significant
	31 to 40 years old	4.33			
	41 to 50 years old	4.43			
	51 and above	4.22			
Division	SDO – Caloocan	4.31	0.690	Accept Ho	Not Significant
	SDO – Malabon	4.39			
	SDO – Navotas	4.26			
	SDO - Valenzuela	4.52			
Educational Attainment	Bachelor's Degree	4.46	0.411	Accept Ho	Not Significant
	MA with units	4.46			
	MA Degree	4.07			
	Ph.D. with units	4.30			
	Ph.D. Degree	4.65			
Grade Level	Kindergarten	4.36	0.851	Accept Ho	Not Significant
	Grade 1	4.40			
	Grade 2	4.29			
	Grade 3	4.35			
	Grade 4	4.22			
	Grade 5	4.60			
	Grade 6	4.50			
Teaching Position	Teacher I	4.40	0.975	Accept Ho	Not Significant
	Teacher I!	4.44			
	Teacher III	4.38			
	Master Teacher I	4.29			
	Master Teacher II	4.50			
Years in the Teaching Profession	3 years and below	4.49	0.233	Accept Ho	Not Significant
	4 – 10 years	4.45			
	11- 15 years	4.57			
	16 years and above	4.11			
Frequency of Using Websites	Not used at all	3.88	0.919	Accept Ho	Not Significant
	Once a week	4.57			
	Twice a week	4.32			
	3 – 4 times a week	4.28			
	Daily	4.41			
Average time in using OPLN	1 – 2 hours	4.26	0.451	Accept Ho	Not Significant
	3 – 4 hours	4.40			
	5 – 6 hours	4.50			
	7 – 8 hours	4.76			

Note: If p value is less than or equal to the level of significance (0.05) reject Ho, otherwise failed to reject Ho.

3.5 Significant Difference of Respondents Between Online Professional Learning Networks (OPLNs) Engagement and Community of Inquiry (CoI)

Based on Table 16, it was evident that the respondents' experiences with Online Professional Learning Networks (OPLNs) and Community of Inquiry (CoI) showed significance, indicated by computed p-values exceeding the set significance level of 0.05. This resulted in rejecting null hypotheses, except for the connection between Community of Inquiry in the elements of Social Presence in OPLNs variables (Motivation, Design, and Sharing and Learning), which was found to be insignificant. The respondents registered the teaching and cognitive presence as significant out of the three presences, while the social presence was insignificant in the three OPLN variables; thus, the hypothesis failed to be rejected.

The three components of CoI, "teaching presence" (0.0004), "social presence" (0.4992), and "cognitive presence" (0.0010), showed significant findings in the p-values between OPLNs (Motivation) and these aspects. The hypotheses were rejected for teaching and cognitive presence but not for social presence. Comparably, in OPLNs (Design), social presence did not achieve significance (0.2560), while significant p-values were found for "teaching presence" (0.0001) and "cognitive presence" (0.0002). Similar p-values were discovered for "teaching presence" (0.0016) and "cognitive presence" (0.0015) in OPLNs (Sharing and Learning), but social presence (0.4806) showed no significance. Social presence showed a continuous failure to reject the hypothesis across various variables,

suggesting its insignificance with respect to the CoI framework in OPLNs. The calculated p-values in these results surpass the predetermined significance level of 0.05.

Table 16. Analysis of the difference between OPLNs engagement and community of inquiry

Online Professional Learning Networks (OPLNs)	Community of Inquiry (CoI)	p-values	Decision	Remarks
Motivation	Teaching Presence	0.0004	Reject Ho	Significant
	Social Presence	0.4992	Failed to Reject Ho	Not Significant
	Cognitive Presence	0.0010	Reject Ho	Significant
Design	Teaching Presence	0.0001	Reject Ho	Significant
	Social Presence	0.2560	Failed to Reject Ho	Not Significant
	Cognitive Presence	0.0002	Reject Ho	Significant
Sharing and Learning	Teaching Presence	0.0016	Reject Ho	Significant
	Social Presence	0.4806	Failed to Reject Ho	Not Significant
	Cognitive Presence	0.0015	Reject Ho	Significant

Note: If the p-value is less than or equal to the significance level (0.05), reject Ho; otherwise, fail to reject Ho.

Online professional learning networks play a crucial role in fostering motivation, sharing, and learning within a community of inquiry framework, particularly emphasizing teaching and cognitive presence (Lambrev, 2023; Zheng et al., 2023; Kavoura, 2022; Sadaf et al., 2022, and Dell et al. 2022). These networks provide a platform for educators to engage in reflective practices, collaborative knowledge construction, and the development of metacognitive skills such as self-regulation and co-regulation. By leveraging teaching presence to facilitate meaningful discussions and cognitive presence to promote critical thinking and problem-solving, online professional learning networks create spaces for practitioners to share experiences, seek feedback, and collectively advance their understanding and application of knowledge. The integration of motivation-enhancing strategies and a focus on building a supportive learning community further enriches the online professional learning experience, ultimately contributing to educators' continuous growth and development within a digital environment.

Online Professional Learning Networks (OPLNs) influence on the Community of Inquiry (CoI) framework—focusing on teaching, social, and cognitive presence—has been thoroughly investigated. According to research, teaching presence indirectly improves perceived progress via co-regulation (Zheng et al., 2023). Positive emotional states influence the relationship between self-regulated learning and online learning satisfaction (Zhang et al., 2023). Cultural differences shape perceptions of social and teaching presence among German and Thai students. Furthermore, increased teaching and social presence in remote learning is associated with increased self-efficacy and positive attitudes toward future remote learning (Grothaus, 2022). These findings highlight the importance of teaching, social, and cognitive presence for promoting online learning outcomes and student satisfaction. By fostering a strong sense of presence within their OPLNs, educators can significantly improve students' online learning experiences and outcomes.

Even though social presence was insignificant in any of the three OPLN variables (Motivation, Design, and Sharing and Learning) in this study, social presence theory is still essential to appreciating how people present themselves genuinely online, especially in learning environments. The significance of emotional expression, reciprocal interactions, and a sense of community is highlighted by Garrison et al. (2000), who classify social presence into affective, open communication, and group cohesion indicators.

Notwithstanding the study's conclusions, other research emphasizes social presence in learning environments. According to McCool (2023), social presence in online contexts has a favorable impact on knowledge transfer, student satisfaction, and team cohesion. He (2022) also mentioned the importance of social presence in building and growing online learning communities, influencing individual perceptual learning and satisfaction, and comprehending online learning behavior. Furthermore, Zhang et al. (2023) emphasized that the CoI paradigm strongly emphasizes the value of instructional, social, and cognitive presence in enhancing student satisfaction with online learning. Emotional states and self-regulated learning influence this improvement, demonstrating how these variables are interdependent in determining how students experience and perform in virtual professional learning development set-ups.

4.0 Conclusion

The study concluded that most respondents were aged 31-50, with the highest representation from SDO-Caloocan and the predominant grade level being Key Stage 2. Most held a Master of Arts with units and were in the Teacher I position, with 4-10 years of service. Respondents actively engaged with Online Professional Learning Networks (OPLNs), dedicating 3-4 hours daily, primarily for collaboration and assistance, resulting in substantial improvements in Teaching Presence, Social Presence, and Cognitive Presence. OPLNs effectively enhanced teaching performance, particularly in fostering critical thinking and problem-solving. While OPLNs significantly impacted motivation, design, sharing, and learning, they did not influence respondents' demographic characteristics. Teaching and Cognitive Presence were critical for OPLN effectiveness, but Social Presence showed little impact, highlighting the need for further research to integrate it for comprehensive educational benefits better.

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7.0 Conflict of Interests

The authors found no conflicts of interest regarding this research's publication.

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Life Goals and Coping of Elderly Women Living in Poverty

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Abstract. This qualitative research study explored the circumstances of elderly women living in poverty during the COVID-19 pandemic and examined the various life goals they developed over their life course. Nine women, aged 65 to 85, residing in Metro Manila and classified as beneficiaries of the government's Pantawid Pamilyang Pilipino Program (a conditional cash transfer program implemented by the Department of Social Welfare and Development), participated in phone interviews. These interviews explored their different life goals, ways of achieving them, and the impact of the pandemic. The results suggest that while goals aimed at improving their financial situation are prominent among elderly women in poverty, most of their goals are directed toward the betterment of people significant to them. A key factor they consider helpful in achieving their goals is social or external support. However, challenges brought by the pandemic have significantly shifted their focus to simpler goals, such as regaining the freedom to engage in outdoor activities and ensuring survival.

Keywords: Late-life; Poverty; Beneficiaries; Life Goals; Survival.

1.0 Introduction

Setting life goals offers a significant sense of purpose as individuals are influenced by this act to have meaningful objectives. Most goals that individuals set are of profound personal importance and are fundamentally tied to their unique experiences throughout their lifetime. In one's lifespan, individuals progress through various life stages, and the content of their life goals develops accordingly. Other than providing direction for an individual to pursue, life goals also serve an important role in identifying the path individuals may take toward desired futures. Understanding the complexities of life goals is essential, as they shape individuals' choices, actions, and, ultimately, the course of their lives.

With the pandemic and the policies imposed implying drastic changes in different areas of one's life, it is concluded that social demands have changed for most individuals. It can, therefore, be understood that there is an important shift in the life goals that people set for themselves out of the context of a pandemic, in comparison with the current society facing the various challenges brought by the changes happening now. As part of the vulnerable population, this study explored the contents of life goals among individuals in late life. The researchers sought to investigate the intersection of poverty and the challenges of late life among women amidst the backdrop of the COVID-19 pandemic by examining the life goals that they set for themselves.

Although there were efforts to explore life goals across the lifespan, insufficient attention has been given to the unique circumstances of late life. The closest attempt was a study (Saajanaho et al., 2016) examining the goals of older adults. An insight that health maintenance and social engagement were important for this population was

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gathered. However, the samples did not come particularly from individuals in later life, and there was no other research conducted to delve into the intersection of late life and poverty, thus remaining largely unexplored. Moreover, research on late-life poverty remains limited as well, despite it being a persistent socio-economic challenge affecting many people.

This study seeks to address these gaps by investigating the life goals of women in poverty in late life and examining how their aspirations are influenced by their living conditions in the context of a global pandemic. By delving into the experiences of this marginalized population, this study aims to provide a deeper understanding of the challenges these individuals face and the mechanisms they employ in pursuing their goals. Through a qualitative exploration, rich data on these matters are expected to contribute to the further development of individuals and society.

To achieve this, the study addressed two key research questions: (1) what are the life goals of women in late life experiencing poverty, and (2) how do women in late life and poverty pursue these life goals? In this research, late life and poverty served as the main constructs. Poverty was defined by PSA, its attached agency, as Filipinos deprived of at least 4 of the identified 16 indicators falling under the main umbrellas of health and nutrition, housing, water and sanitation, and employment. PSA defined that below P10, 481 of monthly family income encompasses the poverty threshold (Ordinario, 2019).

These late and poverty may directly affect the two factors, namely: (1) life goals and (2) ways of achieving life goals. Life goals are integral to an individual's identity and overall well-being. It emphasized pursuing meaningful life goals associated with greater life satisfaction and psychological well-being (Emmons, 2014). Achieving life goals involves individuals' strategies, actions, and processes to reach their long-term aspirations and objectives. This includes setting specific, measurable goals, developing plans, maintaining motivation, and adjusting efforts based on feedback and changing circumstances (Locke, 2019)

Late-life, as a stage of development, poses many challenges to every individual. Late life is characterized by a shift in priorities and goals, with individuals often focusing more on emotional regulation and meaningful social connections as they age. (Carstensen, 2015). These challenges include the general decline in people's physical and mental abilities, which limits them from participating in different social activities. People at this stage are also more fragile, making them an easy target for diseases due to biological degeneration. Because of these phenomena, these people are also more vulnerable to poverty as their capability to deal with the daily demands of life is reduced, and their aging bodies also slow down their work performance. Given that females have higher life expectancy than males, more women are experiencing the challenges of aging. Aside from that, it was also reported that there are more aging males who have jobs than females, which makes women have a harder time resolving poverty. In general, there are quite a few women in late life and in poverty who deserve attention in research to understand their situation and alleviate their experiences and well-being. This study emphasizes how a life situation influences the content of an individual's life goals and impacts the ways of pursuing their life goals. It further provides an understanding of the existing issues and problems among a certain population in the same life situation. Additionally, it is expected that this would provide necessary information on the needs and concerns of the said population and would be of significant help in formulating essential actions to address their situation, especially during a global pandemic.

Degeneration with aging individuals' physical and mental health and capabilities is a part of biological reality. It is from social construction that these individuals experience constraints and opportunities for a more manageable life. To deal with poverty later in life, it must be acknowledged that these individuals can still contribute significantly to their own households and communities. Concerning the study on life goals and coping of elderly women living in poverty, Erikson's theory helps explain how these women explore their late-life challenges.

In Erikson's Psychosocial Stages, the importance of wisdom in old age, particularly the last stage, emphasizes the stability of personal goals, which is not static and is mostly influenced by the changes brought about by the varying developmental phases of an individual coupled with new tasks, challenges, and roles. As they face various struggles of aging and poverty, their ability to gain a sense of purpose and wisdom is influenced by their earlier life experiences and the psychosocial development they underwent. The eighth stage, the maturity stage, is where

individuals find a degree of purpose in their lives; it posits that personality development is a continuous process and that psychosocial growth in the earlier stages of life is necessary and a prerequisite for resolving later developmental conflicts. Therefore, Erikson's developmental model has positive applications and utilization in understanding and coping with different identity crises that individuals in late life confront. Erikson's framework provides a proper understanding of the emergence of personal identity, emphasizing its dynamic nature throughout an individual's lifespan.

Data from this study are expected to help policymakers, practitioners in related fields, and communities develop specific interventions to empower marginalized populations and effectively address their needs. By amplifying the voices of late-life women facing poverty, this study aims to promote a more inclusive and equitable society where every individual's objectives are acknowledged and supported.

2.0 Methodology

2.1 Research Design

The study utilized a case study. In understanding the experiences unique to women in late life and experiencing poverty, the researchers employed a case study that emphasizes the exploration and specific understanding of subjective experiences exclusive to the target population, highlighting their life goals, coping mechanisms, and the unique challenges they face due to their socioeconomic status and age. According to Yin (2018), case studies are used to thoroughly depict the real-world context and conditions of the subject matter, offering a comprehensive understanding of the situation being studied. This approach was selected as the researchers deemed that the study participants have uncommon situations in life, and the processes involved in this approach allow the researchers to fully explore the heavily marginalized experiences of women in late life and poverty in a society experiencing a pandemic crisis. Instead of generalizing the findings to a larger population, attention is being paid to gaining a substantial understanding of a small sample size.

2.2 Research Locale

The study was carried out in Metro Manila. Despite its relatively moderately-sized land, it is one of the most populated regions in the Philippines. It is the nation's capital in which trade and other major businesses of the country take place. Millions of Filipinos are residing here, and during the daytime, the number of people within Metro Manila doubles as workers and students coming from the greater Manila area (Batangas, Bulacan, Cavite, Laguna, Nueva Ecija, Pampanga, Pampanga, Rizal, and Tarlac) as they have their jobs and schools in here. Urbanization is easily felt among people living in Metro Manila. Rapid changes, development, and even inflation are straightforwardly felt in this region, which is why people in poverty are significantly impacted by these economic changes. Given these, Metro Manila serves as the ideal setting to gather participants, which will fit best for the current study concerning another variable: poverty. This study participants were selected through purposive and snowball sampling, with the partnership and aid of barangay workers, who provided basic information and contact details.

2.3 Research Participants

10 participants were qualified in the following criteria: (1) biologically identified as female; (2) 65 to 85 years old; (3) recipient of the government's 4Ps (Pantawid Pamilyang Pilipino Program, a conditional cash transfer program implemented by the Department of Social Welfare and Development (DSWD); (4) living within Metro Manila for at least 5 years; (5) with an available cell phone number for the researchers to call. Participants of this study were identified as informal settlers with an average household income less than the poverty threshold issued by the Philippine Statistics Authority, which is P10,481.00 (psa.gov.ph, 2019). They are also living along with at least four other family members, any of them who are aged zero to eighteen.

2.4 Research Instrument

The researchers utilized a personal data sheet and an interview guide questionnaire. The personal data sheet contains the basic information of the participant, such as name, age, date of birth, and other necessary profiling. Specific areas are also included to properly define the current income of the participant and his/her household, therefore confirming the individual's qualification to take part in the study. The interview guide questionnaire has 15 open-ended questions. This was used during the interview necessary to guide the semi-structured discussion. Eleven questions focused on exploring the life goals of the participants relative to late life and the

poverty they experienced while living in an urban area. The remaining four pointed to changes brought about by the COVID-19 pandemic – changes that directly affected their lives and the focus of their life goals. The questions used in the process have undergone validation from experts in psychology, counseling, and gerontology before their actual utilization. The data yielded from the interviews were manually transcribed, coded, and analyzed.

2.5 Data Gathering Procedure

The whole process of selection and participation was done through phone calls, which is the safest way to conduct research. Although this may limit the research regarding reaching the representative population, the researchers prioritized health and safety. The first target participant suggested other recipients in the same category as her, and this later resulted in her seeking support from the barangay worker who also manages the 4Ps in the area. Through the master list of 4Ps recipients provided by the barangay workers, the researchers filtered women in late life and contacted them via phone. Only seven possible participants were targeted, and one declined to join due to health concerns. The other three participants were purposively recruited from online promotion.

Before the interview proper, consent to participate and record the interview was collected from each participant. Each conversation was in a loudspeaker, making the recordings easily accessible for transcription. Along with the necessary information each participant shared during the conversation, the researchers also noted the changes in the participant's voice and other sounds they emitted from the interviews, which were later utilized in data analysis. For this study, all audiotaped interview recordings were carefully transcribed verbatim to support all the findings. Respondent validation was employed to ensure the accuracy of the transcribed responses. The researcher asked the participants to review the interview transcripts for modifications and additions. Three experts in psychology, counseling, and gerontology validated the interview guide questionnaires.

2.6 Data Analysis

For the data analysis, the interviews were recorded for transcription. An initial manual coding of responses followed. This is described as the process of generating codes which are the interpretation of the researcher to a certain statement from the interviewee to start with the categorization properly. As defined by Boyatsiz (1998), codes are the most basic segment, or element, of raw data or information that can be assessed meaningfully regarding the phenomenon. In this part, statements from the participants were examined and identified thoroughly and specifically, which therefore indicates that these outcomes were data-driven as the main basis and source of coding and emerging themes were from the collected data itself.

Coding was made possible by highlighting statements from the transcriptions and providing codes for each. Lastly, an analysis of themes was conducted. This stage involved sorting out codes and looking for similar patterns and interpretations to produce umbrellas or themes that would generalize the contents of the codes. Mapping the codes helped in producing themes; the researcher also considered this. To validate the themes that emerged from the study, the researcher processed these to be reviewed by experts in psychology, from which minor suggestions and comments were made to produce better outcomes for the study.

2.7 Ethical Considerations

This section discusses the potential ethical issues that the study addressed. The researcher conducted the research based on the Ethical Guidelines the Philippine Normal University set.

Justice. The researcher treated every participant equally and observed a general level of fairness. As for the selection of criteria for choosing the participants, the researcher made it a point that it was free from bias as regards sex, class, and ethnicity. Additionally, the proficiency of experts was consulted in validating the interview guide questions and emerging themes. Respondent validation was also employed to ensure the accuracy of the transcribed responses.

Respect. In the study, the researcher ensured the physical and psychological safety of the participants. Even if the participants met the criteria of being included in the study but did not want to participate, the researcher honored and respected their wishes. Informed consent was also discussed by the researcher, and conducted further explanation for the participants to comprehend the conduct of the study.

Beneficence. The researcher considered the well-being of every participant. Approval and consent were necessary prior to the study being conducted. The participants' safety was the researcher's utmost concern; hence, the study's rationale, benefits, and risks were discussed with the participants. Likewise, the benefits and risks of the study were thoroughly discussed with the participants.

Confidentiality. The researcher let the participants feel that every information they shared was treated with the utmost confidentiality. Confidentiality of information was upheld by giving protection to the real identity of the participants, assigning pseudonyms or code names to each one of them, and keeping the personal information of the participants private. Moreover, all the documents and records of information regarding the participants were destroyed after the study had been completed.

3.0 Results and Discussion

The scripts from the interviews among the nine participants yielded common themes and represented the thoughts, opinions, and experiences of people in a similar situation. There are four life goals and four different ways of achieving them that women in late life who are experiencing poverty have identified in this study. These answer the research questions that this study aimed to explore.

3.1 Life Goals of Women in Late Life

Women in late life and poverty have identified various life goals; most of these are long-term goals that require a lot of time and work to pursue, while some are immediate goals that they try to work on in their daily lives to attain a sense of fulfillment. The goals that they have set are mostly motivated and influenced by the poverty they are experiencing and the challenges in late life. These goals are shown and briefly described in Table 1.

Table 1. Life goals of women in late life and poverty

Theme	Participant	Sample Response
Viability of Other Family Members	6 out of 9	"I hope before I die for my children and grandchildren to succeed in their studies. My two grandchildren, one in 3rd year, and the other in grade 3, (we) still have to spend for them until they are in grade 11, 12 to college."
Acquisition of Possessions	5 out of 9	"I have only dreamt of buying a [sewing] machine. It also serves as my leisure… I was able to send my children to school through that. It will be a waste that my other materials are still here."
Physical and Mental Well-Being	6 out of 9	"I hope that I can still live longer to watch my grandchildren grow up; that is the only thing I aim for. I am hoping that God will not give me any health issues because I still want to see my grandchildren."
Financial Stability	6 out of 9	"What I want is not to give (burden) to my children; it is hard. I aim to be able to save up enough money so they will not have to struggle anymore. They will only need to bury me and will not have to overthink if I have the money."

Theme 1: Viability of Other Family Members

Goals for the viability of other family members are defined in this study as "any goal that is aimed at the success in the physical and social well-being of another family member; is constructed by a family member and inherently involves another member in its achievement." Six out of nine participants have included this type of goal in their aims in life. Responses on this theme generally tackled the participants' desires for their children and grandchildren to live a better life and succeed on the paths they will be taking, such as their education and career. Other thoughts about this are more specific and personal to the participants; it includes goals for the improvement of the health of their husbands and having a nurturing family for their children. It is observable that these goals for another member of the family are only aimed at avoiding the possible hardships that other families may experience and further improving their situation in life as compared to the current experiences they have with their current situation.

In a study (Saajanaho et al., 2016) examining the life goals of old age individuals, the goals for the viability of other family members were like those included in the dimension of social goals. This dimension specifically includes those goals that are "related to other people" and aimed at helping concretely or improving their well-being. The data from their study were extracted from community- dwelling individuals aged 75 to 90 years old. This indicates that Filipino women in late life and poverty have similar goals with community-dwelling old age individuals in Finland, which is to improve the general well-being of other people who are significant to them despite the varying

context. However, the data from the study above yielded higher reports on health maintenance goals than those on social goals, which differs from the current inquiry's results. Contextual differences may bring this about as Philippine society is characterized to have a strong collectivist value (Grimm et al., 1999, as cited in King & McInerney, 2019). People in collectivist societies value social relationships and focus on the family to the extent that they perceive less distinction between the self and the significant others (Markus & Kitayama, 1991, 2003 as cited in King & McInerney, 2019). Moreover, as Emmons (2005) claimed from his past research on goals and strivings, goals were said to be the expression of an individual's "future orientation and life purpose," with this theme emerging from the interviews, it could be understood that individuals in their late life tend to find their purpose in life through striving for the betterment of their families and valued ones. This is similar to how Erik Erikson viewed an individual's increasing concern towards the outside environment of the self as a person ages (Erikson & Erikson, 1998).

Theme 2: Acquisition of Possessions

Acquiring particular possessions is among the common goals of women in late life and poverty. Like the previous theme, this was generated by five out of nine participants. This theme is "goals aimed at obtaining certain material goods of major significance to the household." Most participants mentioned wanting to own a house because paying monthly rent burdens their finances. House rental alone already consumes a lot from the monthly earnings of the participants' families; this makes it challenging for them to deal with other needs and hard to save money. Aside from that, owning a house will grant them the aim of having a much more stable place to live. For one of the participants, she needs to have a sewing machine. She believes that this will be helpful in earning more money that could help with their expenses. As for the other, acquiring money through possible daily job offers from her neighborhood would be necessary. This will also improve their income and further lessen the burden of poverty.

The goals that the participants mentioned during the interviews mainly serve as a means to pursue more abstract and meaningful goals that are of true significance to them and the people they value. However, these are also classified as what the participants aim to achieve and as an endpoint to their striving, so it was necessary to categorize this goal. This also reflects how these people's socioeconomic status has affected their thinking and perception toward life goals, which means that the scarcity they have experienced during the past until the present years of their lives has undeniably affected their thinking toward the future. With this theme emerging from the responses of financially challenging individuals, it has been proved that the assumption of Klinger (1998) from his former study that goals and striving are deemed to be the representation of the internal desires of a person and was said that they largely determine the contents of consciousness which include various thoughts and their equivalence on the emotional state, was right and reasonable until to this current society.

Theme 3: Physical and Mental Well-being

This study defines this as "goals which are focused on maintaining and improving the physical and mental well-being of women in late life and poverty." Six out of nine participants have highlighted this goal. Most of them have reported minimal to no significant concern about their health status; only one participant reported being on medication for a chronic illness, which is diabetes. For that participant, minimizing the effects of her disease is an achievement worthy of being aspired for. For others, it is important to maintain good health as becoming sick would hinder them from attaining other goals that they have in life. Health, for them, must be taken care of as their productivity relies heavily on this. Additionally, participants perceived that having health issues would decrease the possibility of them guiding their children and grandchildren while they are growing up. Some do not like the idea and would want to avoid the state of losing awareness of their environment (such as those who have Alzheimer's disease or dementia) as they believe that this will only add to the burden that their family is carrying right now.

These goals related to one's health significantly reflect the assumptions of Kokonyei et al. (2008) that goals are not static and are mostly influenced by changes posed by different developmental stages. During late life, the certainty of living heavily relies on a person's health status, as individuals in this stage are more vulnerable to complications given their degenerating physical body. It is also important among women in late life and poverty to attain good health despite having limited resources for health maintenance.

Theme 4: Financial Stability

Six out of nine participants mentioned their goals of gaining financial stability. This study defines this as "goals on having a stable source of finances sufficient for the individual and their family's needs." Most participants have goals of starting a business or a source of income to earn some money. Due to the reasons that most of the participants are unemployed and their other families are struggling to get a stable job, they are striving to generate an income through ways that are within their control. Such ways include the plan of starting a personal business that they are still capable of, like garment repair. For the other participants, saving enough money to prepare themselves for future expenses is important.

Although it has been found from Saajanaho et al.'s (2016) study that there were economic issues from individuals in old age, only a small percentage of the data have reported the economic issues that they want to deal with through working on their daily goals. Only four percent of their participants have mentioned such a goal, which contrasts with the data from the current study, as 57% of the participants expressed their goal of attaining financial stability. These are also long-term financial goals and are not easily achievable through a day of striving. However, financial stability goals are identified to be "meaningful and universal goals from the developmental perspective" (Hershey et al., 2002).

Therefore, financial stability is important to most individuals regardless of their developmental stage. This is only further highlighted in this study as the participants are all struggling economically, reinforcing their need for financial stability. Furthermore, the result aligns with Sarvimäki (2000) claiming that the socioeconomic status of a person has an impact on his or her sense of the subjective quality of life, which is also equated to a sense of well-being, meaning, and value. It was observable that the participants of the current study aim to improve their socioeconomic state through financial stability as they believe this will later result in an improved quality of life. In that sense, striving for financial stability becomes more meaningful to them.

3.2 Different Ways Women in Late Life Pursued Their Goals

The participants of this study shared different means that they believe are helpful in attaining their life goals. These means reflect the behavior they intend to adopt in pursuing their goals. Table 2 briefly presents these themes, as shown below.

Table 2. Ways women in late life pursued their goals

Theme	Participant	Sample Response
Cooperation With the Family	6 out of 9	"Cooperation. If we only leave (the responsibility) to one of us, it will not work… When I have money they do not have, I will help them (and vice versa)."
Generate Source of Income	6 out of 9	"However, it may be, I will work on my own… If my children could provide some help or not, I will still be grateful."
Belief in Religious and External Intervention	3 out of 9	"I want not to experience being too forgetful or unaware of my surroundings. I hope to God that I will not get into that point in life that I will be messing around because of forgetfulness."
Seeking Financial Support	4 out of 9	"Whenever I go to someone (to seek financial help), in God's mercy, they would lend me some money. However, (remember), if it was a debt, pay it. If you have some money, pay for the debt (right away) so you can borrow again later on."

Theme 1: Cooperation with the Family

This theme emerged from the responses of six out of nine participants who have tackled how important it would be to work along with their families to attain the goals that they have set for themselves or others. It is specifically defined in this study as "the process of working together with another member of the family to accomplish a particular life goal." Participants mentioned how important it is to value the give-and-take relationship between family members for everyone to survive life's challenges. This way of achieving a goal is mostly associated with goals of attaining financial stability and goals on the acquisition of possessions. One of the participants cited that all the working adults in their family are contributing to the expenses of the household to ensure that there will be some money left as savings for the goal of having their own house. This is significant for her as the challenges that she may encounter in attaining the said goal are minimized and are more manageable, knowing that they are working towards the same end as her.

This needs for external support, and the willingness to provide support to others is further explained by the existing culture among Filipinos, wherein most people live in multigenerational households and communities, and social ties are important (Valdez et al. cited in Badana & Andel, 2018). Given that the social environment plays an important role for older Filipinos, women in late life and poverty give significant importance to the role of other people in attaining their goals. This theme is in line with the study of Canvin et al. (2018), which states that there are factors that older people consider when seeking assistance later in life. This includes "their acknowledgment of decline and its perceived impact on their usual activities and independence" (Canvin et al., 2018). Women in late life and poverty highly regard external help as useful in attaining their goals; it is for the same reason that they have various limitations in their functioning, which, therefore, calls for assistance from those who are still capable. They have also acknowledged that their ability to deal with things is declining.

Theme 2: Generate Source of Income

This is an "initiative to produce a source of income through personally creating a livelihood or acquiring jobs which would help pursue life goals." Six out of nine participants believed that a necessary step toward attaining their goals was through earning money from providing services or goods that they were still capable of. Most of the participants were not certain about what specific job they would want to do. However, it was clear to them that it is necessary to look for ways how they could contribute to the finances of the household and that they are willing to work as long as it would be helpful in the improvement of the quality of economic life that they currently have. Some participants are into doing similar jobs that they used to do back in their younger years as they know that they are still skillful at doing such work. An example of this is P1, as she is truly eager to resort to repairing garments again as she believes that she is still good at it and that it would give them additional income that could relieve their daily expenses.

In comparison to most individuals in their late lives, most of the participants are willing to start working again or do extra jobs to contribute to having an easier life for themselves and their families. Despite the inevitable challenges brought about by aging, women in late life and in poverty perceive that if their bodies can handle it, they will look for any source of income. This emphasized Barrientos' (2003) recommendations that it is necessary for the people in the community to further understand the context of poverty in later life for the authority to develop policies appropriate to deal with these concerns. There might be an existing law regarding the availability of employment for individuals in late life, as said in Section 5 of Republic Act 9994, "an act granting additional benefits and privileges to senior citizens, further amending Republic Act no. 7432", but thorough study must be done to specify the contents of these policies and applicability to women in late life and in poverty of whom most had barely finished studying. The local government units must also have a well-managed delivery of services to these individuals so that they will be able to educate the elderly regarding their rights and the means they could use to improve their financial situation and even contribute well to their community. It is indeed necessary to recognize and acknowledge how older people can contribute to their households, communities, and the whole of the development process of a nation.

Theme 3: Belief in Religious and External Intervention

This theme comprises the different external interventions that are truly beyond the individual's control anymore, and yet they believe as means that could help them actualize their goals. It is defined as a "means of pursuing life goals which include seeking support from divine intervention or random circumstances which are beyond the control of anyone to be of aid in pursuing goals." Three out of nine participants have discussed this. This indicates that one of the ways they believed would help alleviate their current situation is winning a lottery out of circumstances. Until now, they still somehow believed that this method would someday be helpful for their situation and for them to achieve a better source of livelihood.

In contrast to a former study which revealed that for middle-aged adults and old age individuals, the prevalence of spiritual strivings was greater as compared to other people of younger age (Kökönyei et al., 2008), the spiritual aspect examined from this study did not occur as one of the goals or striving of old age individuals. It only served as a means of pursuing goals rather than being an actual goal. The reason for this could be connected to what the participants perceived more as a necessity, which was to alleviate themselves from and improve their poverty state of living; this as well reflects the assumption that goals and striving are deemed to be the representation of

the internal desires of a person and was said that they largely determine the contents of consciousness which include various thoughts and their equivalence on the emotional state (Klinger, 1998).

Theme 4: Seeking Financial Support

Out of the ten participants, there were four of them raised the significance of gaining social and financial support to attain their life goals. This study defines this theme as "another person or an institution providing assistance to an individual to support them in coping with financial matters." Two participants emphasized that government programs to support those in need help realize their goals. P1 is hopeful of receiving her social pension as this would be a necessary tool in buying her sewing machine since the benefits they get from 4Ps are already allocated for the needs of her grandchildren. Similarly, P7 and her family regarded the financial support from 4Ps as a source of capital for the business, which they tended to explore to earn more money to satisfy their needs.

It has been examined by Gajda and Jeżewska-Zychowicz (2021) that financial and social programs are necessary to limit the risk of food insecurity in households that include the elderly. As food insecurity has a negative correlation with quality of life, minimizing food insecurity is perceived to improve the quality of life of the elderly and their families. The result of this study is in line with their findings as women experiencing poverty also have high regard for financial and social programs, believing that it will also improve their situation in life, therefore easing their means into attaining their life goals.

3.3 Coping in the Pandemic

The COVID-19 pandemic, or Coronavirus Disease 2019, was declared a global pandemic by the World Health Organization back on March 11, 2020 (Vallejo et al., 2020). More than a hundred million people have been infected, and over 3 million deaths have been recorded (WHO, 2021). This health crisis has resulted in various challenges in everyone's daily lives; people have been struggling to keep themselves healthy and economically sufficient, and their social activities have been limited to control the spread of the disease. Among those who are gravely affected are individuals in their late life; they are at higher risk of contracting the disease and are vulnerable to complications that may further cause death. Provided that authorities are stricter in keeping old people at home and the policies created for the pandemic are heavily focused on securing the safety of the elderly. In the Philippines, those aged 65 and above are prohibited from leaving their homes under certain quarantine protocols. This study investigated the effect of the pandemic and the imposed policies about it on women in late life who are experiencing poverty. The following themes emerged as common experiences of these people during the COVID-19 pandemic:

Table 3. Elderly women's health conditions and mental concerns experienced in the pandemic

Theme	Participant	Sample Response
Vulnerable Physical Health	8 out of 9	"During this pandemic, I have been experiencing lots of coughing, having body aches because of (too much) lying and sitting down…There have been so many changes in our way of living, and I cannot engage in outdoor activities like before..."
Emotionally Distressed	9 out of 9	"(I am) mentally stressed, (thinking about) how will we live? How will we be able to survive this pandemic? I have also been pondering where to get (resources) for food?"

Theme 1: Vulnerable Physical Health

Due to various restrictions specifically imposed on the elderly, women in late life and poverty reported different concerns about their physical well-being. These are all included in the theme, Vulnerable Physical Health, which is defined as "the state of becoming more susceptible to contracting diseases and worsening of an existing illness brought about by the pandemic." Aside from that, some participants are already experiencing body aches, such as back pains, more often than before. Having coughs was also common. Some of them claimed that the limited activities and the need for them to always stay at home were great factors in their declining physical health, making them more vulnerable to health issues as the things they used to do are not possible in today's situation. This aligns with a study by Sattersen Jr. et al. (2020), which stated that "there is a strong association between old age and the risk of developing a severe form of the disease and dying from it."

Theme 2: Emotionally Distressed

This theme is defined in this study as "a state of temporary emotional suffering brought about by uncertainties in the time of pandemic." The number of cases of COVID-19 positive in the Philippines has been an unpredictable wave. After the strict implementation of quarantine protocols back in 2020, most Filipinos thought that 2021 would

be a better year and that people would experience their normal lives again. This has not been the case in recent months as the cases keep on surging, and the pandemic is becoming more challenging to control. Because of that, community quarantine, particularly in Metro Manila and Luzon Island, resulted in unstable life for most. Women in late life and poverty are also severely affected by this to the point that it puts them in a distressed situation of uncertainty. They are more concerned about how they will be able to sustain their daily lives as families if the pandemic continues and there are fewer opportunities to earn money. Such thoughts somehow bother these individuals as they also feel helpless given the restrictions on them. Alongside these are worried thoughts of contracting the disease as the spread continues in Luzon Island. Despite that, they are trying to manage their mental health by having some distractions, such as watching TV and communicating more with those who are near and dear to them. They have already accepted the quarantine regulations as they believe it is for their benefit as well. This is in line with the findings of Röhr et al. (2020), where it was found out from their participants that a lot of old age individuals are worried about COVID-19; some are also threatened, and that was because of their advanced age. Women reported a significantly greater threat due to their age than men. Moreover, because of the resilience developed by the elderly, "there were only a few significant associations of aspects of the personal life situation during lockdown and attitudes towards COVID-19 with mental wellbeing."

Table 4. Community support received during a pandemic

Theme	Participant	Sample Response
Increased Community Participation	5 out of 9	"(People in our community) give us some food, they also provide information on what we should do to survive the pandemic, and we sometimes chat with each other. (When possible) We also attend zumba dancing on our street to spend leisure time and improve our physical health.

Theme: Increased Community Participation

As they are experiencing extreme isolation to keep themselves safe from the threats of the pandemic, women in their later lives are engaging more in small activities in their neighborhoods. This is a theme called "Increased Community Participation," which is defined as "Adjusting the content of life goals in accordance to the changes in the society caused by the pandemic and prioritizing new and immediate goals." This includes the occasional Zumba dancing with social distancing whenever the restrictions are at ease, as well as the sometimes-small conversation with nearby neighbors where they give and receive advice from their fellow citizens in handling the challenges of the current situation. This has helped maintain their connectedness to others and manage the stress from isolation. Women in late life and poverty are also cooperating well in following local policies and regulations during the pandemic, despite the challenges it poses on their social being.

Table 5. Pandemic-related changes in life goals

Theme	Participant	Sample Response
Shifting Goals	7 out of 9	"I want to start working. I do not prefer staying inside the house. However, now, we are not yet allowed (to work) ... I (also) want to travel to various places like Laguna to see my grandchildren. However, it is also not allowed nowadays. I want things to go back to normal, back when we can still go out to buy (commodities)."

Theme: Shifting Goals

Shifting goals present life goals that may have been adjusted because of new and immediate goals. The changes in the lives of the elderly made them yearn for the old, more comfortable ways of living before COVID-19 was a pandemic. The previous goals they have set for themselves and for their loved ones, such as owning a house, are resorting to much simpler goals, which involve regaining the "normal" in the community. Women in late life and poverty are now much more focused on wanting to be able to go outside and do outdoor activities again. Along with this, they also aim to have some quality time together with their loved ones who are living in a different place from them.

Life-crafting interventions that utilize goals are being studied during this time of pandemic as they possess potential qualities that are helpful in redirecting people's minds and behavior into meaningful paths now that there are lots of uncertainties. It was proposed by De Jong et al. (2020) that such interventions "help individuals to rediscover meaning in life." It was recognized from their studies that various goals were shattered for some people because of the containment measures imposed by most governments. However, finding and setting new goals that are concrete and more attainable in the present situation is helpful in coping with uncertainties.

4.0 Conclusion

For the first research problem, what are the life goals of women who are experiencing poverty in their late lives? The following themes emerged: viability of other family members, acquisition of possessions, physical and mental well- and financial stability. Life goals of women in late life and poverty were primarily influenced by desires to improve their current financial situation. Financial concerns for themselves are minimal, while they perceive a larger necessity for a stable financial state for younger members of their family. The goals resulting from the current inquiry are more social as it highly considers the outcome these goals will bring to other people who are significant to the participants. Women in late life and poverty also largely consider external help from the people around them or divine interventions in actualizing their life goals.

For the second research problem, how do women in late life and poverty pursue these life goals? These are the themes that emerged: cooperation with the family, generating a source of income, belief in religious and external intervention, seeking financial support, increased community participation, and shifting goals. Given the increasing limitations on the capacity of people to attain their goals, they give particular importance to how external factors and people around them could be of help or could provide tools or means that will actualize their goals.

Monetary support from the government is necessary for women in late life and poverty, as most of their goals heavily need money as a tool in acquiring what they desire in life. Because of their much more limited ability to work on their goals and needs as human beings, they also need better support from the government, which will consider the physical capabilities of these individuals. Regardless of socioeconomic differences, women in late life and poverty are also concerned over their deteriorating health and the risks of further health issues. This is like other individuals in this state of developmental stage, and it calls for better provision of proper health care to individuals who are in a vulnerable state.

The study is limited to elderly women living in urban communities in the Philippines. There is a need to explore how elderly men and women live their lives in a pre-, during, and post-pandemic period. The study focused on elderly women, but the expressed needs and expectations, as well as their experiences, may be further explored by narratives coming from their next of kin. Information regarding how their relatives view their changing life goals and their current focus because of the pandemic may bring further information on how institutions can develop programs for the elderly.

As a gender study, explorations of how women have been traversing their lives in the community by addressing their family's needs may be further studied. Significant and related areas in gerontology regarding the elderly's physical, social, emotional, and spiritual needs during the pandemic may also be studied.

5.0 Contributions of Author

Dr. Armina Mangaoil and Rizandrea Judela M. Ramos - writing the introduction, developing research questions, the conduct of the data gathering, review of the data analysis, report writing, writing, and finalization revision
Dr. Teresita Rungduin, Dr. Tito Baclagan, and Rizandrea Judela M. Ramos- writing of related literature, developing research questions, instrument development, conducting the data gathering, data analysis, and report writing
Ms. Maria Luz V. Rantael- Encoding and preparation of needed documents like informed consent, etc.

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7.0 Conflict of Interests

There is no conflict of interest.

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Nepotism and Employee Innovation: The Mediating Role of Perceived Fairness and the Moderating Role of Organizational Transparency

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Abstract. Nepotism in the tourism and hospitality industry, educational institutions, and government affect fairness while stifling employee innovation —critical to maintaining competitive advantage and organizational growth. This study examines the impact of nepotism on employee innovation, particularly examining the mediating role of perceived fairness and the moderating influence of organizational transparency. The analysis reveals that the indirect effect of nepotism on innovation, mediated by perceived fairness, is statistically insignificant (β = 0.00, p = .422). Furthermore, the direct effect of nepotism on innovation is significant and negative (β = -0.06, p = .018), indicating that nepotism directly hinders innovation within organizations. While perceived fairness decreases under nepotism, this effect is insignificant (β = -0.02, p = .116). Additionally, perceived fairness does not significantly impact employee innovation (β = -0.20, p = .351), suggesting that variations in fairness perceptions do not substantially affect innovation. Organizational transparency significantly moderates the relationship between nepotism and perceived fairness (β = 0.29, p = .006), indicating that higher transparency can mitigate the adverse effects of nepotism on fairness perceptions. However, transparency does not significantly influence the relationship between perceived fairness and innovation or the indirect effect of nepotism on innovation (p > .05). These results indicate that transparency may improve the perception of fairness in nepotistic environments; however, it does not generate sufficient innovation. Consequently, to encourage innovation in environments where nepotism is prevalent, organizations should explore alternative mechanisms beyond transparency, such as implementing leadership development programs and cultivating a meritocratic culture. Additional research is required to identify mediators connecting nepotism to employee innovation.

Keywords: Nepotism; Employee innovation; Perceived fairness; Organizational transparency; Mediation, Moderation.

1.0 Introduction

Nepotism is unjust treatment in different workplace areas, such as task distribution, mentorship, coaching, performance evaluations, promotions, and recruitment procedures (Ufuoma, 2023). In challenging work environments, these behaviors can lead to workplace harassment, discrimination, and even suicide (Das et al., 2022). Nepotism affects organizations and individuals. These actions can harm trust, disrespect, and undermine organizational meritocracy (Arıcı et al., 2020; Ignatowski et al., 2020). Nepotism at work may adversely affect individuals and organizations. They favor people based on relationships, not merit. Thus, preferential treatment can raise work-related stress and employee dissatisfaction and negatively impact abilities and social connections (Iqbal & Ahmad, 2020; Çakır & Doğantan, 2023; Ignatowski et al.).

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On the other hand, Kang (2023) states that workplace innovation fosters continuous improvement, employee engagement, and productivity, making it essential for company success. Hence, Stoffers et al. (2021) suggest modifying organizational structures and cooperation approaches to maximize employees' abilities and competencies to improve organizational performance and achieve goals. It emphasizes the development of new work processes and production methods to deploy people effectively (Oeij et al., 2019). Innovative workplace behaviors purposefully create, introduce, and use new ideas to increase individual, group, and organizational performance (Stoffers et al., 2019). Performance improves with innovation. Thus, organizations should promote it (Ishaq et al., 2022). It promotes productivity and occupational growth; workplace innovations must match learning processes (Billett et al., 2021). Innovation-fostering workplace learning drives organizational performance (Shah & El-Gohary, 2022). Creative workspaces can inspire inventive work (Abun, 2023).

Moreover, considering nepotism is prevalent, family-nonfamily interactions affect innovation and performance. Researchers have found that managing a family's agenda and family-non-family interactions can affect organizational innovation (Ashraf, 2023). Family firms may fill key positions based on family connections rather than qualifications, which might demotivate employees (Suman & Das, 2020). Nepotism hinders employees' willingness to innovate and venture, reducing organizational gains (Chang, 2024). Nepotism also hinders organizational innovation. Research shows that workplace tensions like nepotism impair innovation (Fan et al., 2022). Nepotism-induced workplace ostracism and incivility reduce innovative work behavior (Samma et al., 2020).

Additionally, in organizations where nepotism is prevalent, there is a reported decrease in trust in management and a diminished perception of organizational fairness, which can impede innovative behavior (Vveinhardt & Sroka, 2020). The significance of fair treatment in establishing a work environment conducive to innovation is underscored by the necessity of addressing issues of abusive supervision in order to improve employee creativity (Akram et al., 2021). The significance of perceived fairness in organizational contexts is further underscored by the fact that fair treatment of employees is observed to increase commitment and collaboration within organizations (Iqbal & Ahmad, 2020). In order to mitigate the negative effects of nepotism, organizations can foster transparency. Organizations can boost innovation by creating an inclusive atmosphere that values multiple ideas and capitalizes. Organizational transparency in recruiting and promotion processes, together with maintaining open communication and equitable treatment of employees, organizations can foster a more favorable atmosphere for the innovative behavior of employees (Nazarenko, 2022; Kebenei et al., 2023; Opuala-Charles, 2023).

This study explores how nepotism impacts employee innovation, focusing on perceived fairness and organizational transparency. Innovation drives organizational growth and competitiveness, attracting fair and respectful workplaces. However, when nepotism is pervasive, non-favored employees often feel unjustly treated, which lowers motivation, morale, and innovation. This research examines how perceived fairness mediates these effects and how transparency can moderate them. By promoting trust and openness, transparency reduces nepotism's negative impact, making employees feel valued and motivated to innovate. This study fills a critical gap in the literature by highlighting the importance of fairness and transparency in creating innovative and equitable workplaces, providing insights for organizational leaders to foster a more inclusive and inspiring work environment.

2.0 Methodology

2.1 Research Design

This study employed a descriptive correlational and cross-sectional research design to examine the relationship between nepotism and employee innovation, emphasizing perceived fairness's mediating effect and organizational transparency's moderating effect. Data were gathered from a representative sample of employees across different organizations using a standardized survey tool. Correlational analyses explored the direct relationship between nepotism and innovation, while regression models tested the mediation and moderation effects. This approach enabled a thorough investigation of the complex dynamics within organizational settings; however, its cross-sectional nature limited the ability to draw causal conclusions.

2.2 Research Participants

The study was based on Judgmental sampling, which included 142 individuals from several groups in Region IV-A. More precisely, the individuals referred to include those working in the private sector, specifically in government agencies, educational institutions, and the tourism and hotel business. This also includes employees working for local government, including those in rank-and-file positions.

2.3 Research Instrument

The study utilized adapted measures from several authors. Variables are as follows: Nepotism was measured via six (6) items with Cronbach's alpha of .88 in all statements about the study (Kawo & Torun, 2020). Employee Innovation was measured via ten (10) items with Cronbach's alpha of .82 for all dimensions of the study by (Jong et al., 2008). Perceived Fairness was measured via eighteen (18) items with Cronbach's alpha of .90 for the supervisor scale and .74 for the coworker scale in the study (Donovan et al., 1998). Organizational Transparency was measured via ten (10) items with Cronbach's alpha of .77 for relevance to .89 for timeliness of the study by (Hossiep et al., 2024). The questionnaire for Nepotism design includes a 5-point Likert scale, with "5" indicating "Strongly Agree" and "1" indicating "Strongly Disagree." A dichotomous scale was used for Perceived Fairness, answering "yes" or "no." Also, regarding Employee Innovation, 5-point scales were used (ranging from 'never' to 'always'). Lastly, in terms of Organizational Transparency, "5" indicates "Very High," and "1" indicates "Very Low."

2.4 Data Gathering Procedure

The data was collected through the administration of online questionnaires and subsequently inputted through Google Forms. Each participant was issued an invitation and was required to express informed consent before completing the questions.

2.5 Ethical Considerations

The researchers guaranteed that all participants provided informed consent before participating in the study without any pressure. The privacy of the data was ensured, and the anonymity of the participants was also guaranteed. The transparency of the results was achieved at the commencement of the study's publication. The researcher's contact information was also provided to the participants in the event of any inquiries or requests to withdraw from the study or the information provided. There were no monetary penalties for withdrawing from the study, and participation was free. None of the participants reported distress.

3.0 Results and Discussion

Table 1 presents the path analysis of the mediating role of perceived fairness between nepotism and employee innovation.

Table 1. Conditional mediation effects of perceived fairness on the relationship between nepotism and employee innovation

Path	Type	Estimate	SE	β	z	p
Nepotism ⇒ Perceived Fairness ⇒ Innovation	Indirect	0.00	0.00	0.01	0.80	0.422
Nepotism ⇒ Perceived Fairness	Component	-0.02	0.01	0.13	1.57	0.116
Perceived Fairness ⇒ Employee Innovation	Component	-0.20	0.21	0.08	0.93	0.351
Nepotism ⇒ Innovation	Direct	-0.06	0.03	0.20	0.236	0.018
Nepotism ⇒ Perceived Nepotism ⇒ Innovation	Total	-0.06	0.03	0.19	2.24	0.025

Note: Betas (β) are completely standardized effect sizes.

The indirect impact of nepotism on employee innovation, mediated by perceived fairness, was insignificant (β = 0.00, SE = 0.00, z = 0.80, p =.422). This suggests that perceived fairness does not significantly mediate the relationship between employee innovation and nepotism. Nepotism tends to reduce fairness perceptions; however, this effect is not statistically significant (β = -0.02, SE = 0.01, z = -1.57, p =.116). Also, the impact of perceived fairness on employee innovation was non-significant (β = -0.20, SE = 0.21, z = -0.93, p =.351), suggesting that variations in perceived fairness do not substantially impact innovation within the organization. These results indicate that the pathway involving perceived fairness does not substantially mediate the relationship between innovation and nepotism.

The direct effect of nepotism on employee innovation was significant and negative (β = -0.06, SE = 0.03, z = -2.36, p =.018), suggesting that nepotism has a direct adverse effect on innovation. Employee innovation will likely decrease in environments where nepotism is prevalent, regardless of any impact on perceived fairness. The total effect of nepotism on employee innovation, which combines both direct and indirect effects, was also negative and significant (β = -0.06, SE = 0.03, z = -2.24, p =.025). The findings reinforce the direct effect and emphasize the overall adverse effect of nepotism on organizational innovation.

Moreover, Souki et al. (2024) explored how feedback and fairness promote employee innovation. Feedback promotes innovation, with perceived fairness mediating, mainly procedural and interactional justice. Fairness in the workplace might affect how employees view and engage in innovative initiatives—based on the study of Nairobi, Kebenei, Okoth, and Khatete (2023), which examined how organizational politics, including nepotism, affect job performance. The research found that perceived organizational politics, particularly nepotism, significantly affected job performance, suggesting that lower fairness may indirectly affect employee innovation. Finally, nepotism affects employee innovation directly. Despite perceived fairness's negligible intermediary function, nepotism negatively impacts innovation, demonstrating that nepotistic contexts are less innovative (Ferrari, 2024).

Table 2 shows the interaction terms indicating whether nepotism's impact on perceived fairness and employee innovation is contingent upon the degree of organizational openness.

Table 2. Moderation effects of organizational transparency on the relationship between nepotism and perceived fairness and employee innovation

Interaction	Estimate	SE	β	z	p
Nepotism × Organizational Transparency ⇒ Perceived Fairness	0.06	0.02	0.29	2.73	0.006
Nepotism × Organizational Transparency ⇒ Employee Innovation	-0.05	0.07	-0.08	-0.64	0.523
Organizational Transparency × Perceived Fairness ⇒ Employee Innovation	0.26	0.31	0.27	0.85	0.393

Note: Betas (β) are completely standardized effect sizes.

The moderation analysis reveals that the connection between perceived fairness and nepotism is significantly influenced by organizational transparency (β = 0.29, p = 0.006). Higher levels of transparency help alleviate the negative effects of nepotism on perceived fairness. However, the impact of transparency on the connection between employee innovation and perceived fairness and between nepotism and perceived fairness is not statistically significant (p = 0.523; p = 0.393). Implying that transparency does not substantially influence the relationship between perceived fairness and employee innovation.

Based on the study of Opuala-Charles and Arunsi (2023), they examined how clan culture affects business performance in Nigeria and found that transparency promotes justice and innovation in nepotistic situations. This research shows that transparency can alleviate some of the adverse effects of nepotism. However, its effect on creativity is only sometimes statistically significant, especially in societies where nepotism is firmly established. According to the study, transparency may reduce nepotism by promoting fairness and openness, which are necessary for employee innovation (Gray & Sreekala, 2024). Transparency is crucial in cross-country nepotism and cronyism investigations. Their study shows transparency can limit nepotism's harmful impacts, affecting fairness judgments across cultures (Dobrowolski et al., 2022).

The significant moderating effect in Figure 1 implies that organizations can reduce the perception of unfairness resulting from nepotism through transparency. When nepotism is unavoidable, organizations must enhance transparency to foster employees' fairness perceptions. Employee innovation had no significant moderation effects, suggesting that there are other factors to consider when transforming innovations in contexts of nepotism. Observed insignificance of mediation implies that nepotism only impacts employee innovation but is not mediated by perceived fairness. There may be a necessity for different mediators or channels used to understand how nepotism influences innovation. Improving creativity in circumstances characterized by nepotism is insufficient to increase the perception of fairness.

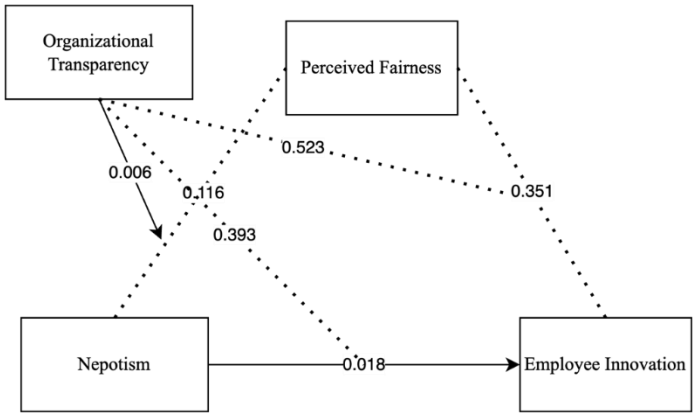

Figure 1. Conceptual framework of the mediating role of perceived fairness and the moderating role of organizational transparency on nepotism and employee innovation

4.0 Conclusion

The analysis reveals that while organizational transparency can reduce nepotism's negative impact on perceived fairness, it does not significantly influence the relationship between fairness and employee innovation. Additionally, the mediating effect of perceived fairness in linking nepotism with employee innovation could have been more substantial. These findings indicate that although increased transparency can improve perceptions of fairness, it alone cannot drive innovation in environments plagued by nepotism. Other factors must be explored to foster innovation where nepotism is prevalent.

Future research should investigate alternative pathways or mediators that better explain the connection between nepotism and innovative behavior among employees. The results underscore the importance of transparency in enhancing fairness perceptions, but its limited effect on innovation highlights the need for organizations to explore additional strategies. Organizations should prioritize transparency, particularly in contexts where eliminating nepotism is challenging. However, more than enhancing transparency is needed to boost innovation; other elements, such as fostering a supportive company culture, must also be addressed.

Furthermore, merit-based practices and leadership development programs can cultivate a younger workforce with a strong inclination toward innovation. Additional research should explore how these factors interact to deepen our understanding of the relationship between nepotism, perceived fairness, and innovation. This study contributes to our knowledge of organizational behavior by demonstrating that greater fairness and transparency do not always lead to increased innovation; in some contexts, alternative approaches may be more effective in promoting innovative behaviors.

5.0 Contributions of Authors

Arcadio, Anderson Ray provided invaluable assistance in the statistical computation, English grammar review, and editing of the discussion section of the research paper. Diola, Darwin contributed significantly to the paper's editing, interpretation, and conceptualization.

6.0 Funding

None

7.0 Conflict of Interests

There is no conflict of interest.

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Concurrent Evaluation of Alternative Learning System (ALS) Program Implementation in Public Island School: Basis for Program Enhancement

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Abstract. The Philippines experienced a high rate of illiteracy and lack of access to primary education, resulting in a high rate of out-of-school youths and adults (OSYA). To alleviate the concerns about illiteracy, lack of access to basic education, and other barriers experienced by those struggling learners, the Department of Education established the Alternative Learning System. This is to allow the aspirant Filipinos to finish their basic education more inclusively. Thus, this study aimed to evaluate the status of implementing the Alternative Learning System (ALS) program of one public island school in the City of Meycauayan and guided by a descriptive survey method as the study's research design. Moreover, the study utilized a self-developed survey questionnaire to dissect the understudied program's implementation status. The study's findings revealed that the status of implementation to the identified key areas of the Alternative Learning System (ALS) program is implemented. Thus, the school adheres to shared governance and program implementation for inclusive education. The stakeholders' view in the assessment provides a statistically significant difference. Hence, the null hypothesis of the study is rejected. The proposed inputs and management implications show how the program will be enhanced in the long run of its implementation in the locale. It is recommended that the proposed enhancement plan be utilized to improve the implementation of ALS in the school.

Keywords: Alternative Learning System; Program implementation; Public island school; Philippines.

1.0 Introduction

The Philippines has a very high appreciation for education. Out of all the social service fields, it gets the highest funding. However, the nation's high debt service load made it impossible for the educational sector to provide each consumer with essential and sufficient services. The children who encountered the most significant obstacles to education—such as those related to gender, poverty, displacement, disability, and, or ethnicity—remain behind in the Philippines and some other nations. Many of these kids are never allowed to go because their families rely on them for labor, the distance, and the risk of attending school. Some of them cannot participate because there are no drinking fountains, restrooms, or facilities accessible to learners with disabilities in the nearby schools (Baccal & Ormilla, 2021).

To alleviate the concerns about illiteracy, lack of access to basic education, and other barriers experienced by those struggling learners, the Department of Education created the Alternative Learning System. This movement by the Philippine government through the Department of Education with the implementation of the Alternative Learning System (ALS) as a crucial component of Philippine education provides every individual with access to quality basic education to reduce the illiteracy rate as envisioned in the Education for All (EFA) 2015 Philippine

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Plan of Action (Apao et al., 2014). It further explains that ALS is a parallel learning system that provides a viable alternative way for learners who cannot attend a formal and regular school to finish their basic education (Zulueta et al., 2022; Hero, 2023).

However, due to the strategic and geographical location of the school, since it is a public island school in the City of Meycauayan, problems and concerns arise, such as the cohort survival rate, possible learners that will enroll in the program, supplies, and services, etc. Hence, it becomes the intention of the researcher to describe and evaluate the implementation status of the Alternative Learning System (ALS) program of one public island school in the City of Meycauayan for the School Year 2023-2024. The findings and management implications of the study will be used to develop and harmonize the inputs that will enhance and strengthen the ALS program in the said school.

2.0 Methodology

2.1 Research Design

The descriptive research method was used in this study to obtain information concerning the status of the phenomena to be described, that is, "what exists" concerning variables as conditions in a situation. According to Bueno (2016), the purpose of survey studies is to collect detailed information that describes existing phenomena, to identify problems or justify current conditions and practices, to make comparisons and evaluations, and to determine what others are doing with similar issues or situations and benefit from their experience in making plans and decision. The descriptive research method employing a questionnaire was used in conducting this study. The questionnaire was administered to the teacher respondents to obtain information on the status of the implementation of the Alternative Learning System program in one public island school in the City of Meycauayan.

2.2 Research Locale

The study was conducted in one public island school in Meycauayan. Simple terrain and gently sloping hills encircle the City of Meycauayan. May kawayan, which translates to "with bamboo" in Filipino, is the source of Meycauayan's name. This area comfortably above sea level, is a network of concrete roads intertwined with lush vegetation.

2.3 Research Participants

The total population of the study was 38 respondents. Five teachers, two school administrators, six learners, and 25 alumni graduated from the ALS program at the said school. Universal and voluntary sampling were used as the sampling procedures in compliance with the ethical considerations of the study.

2.4 Research Instrument

This study used a self-developed survey questionnaire patterned from the indicators from the study of Besmonte (2023) and Hero (2023). It is a Likert scale-type questionnaire that ranges from 1 (not implemented) to 5 (very much implemented). The constructed survey questionnaire underwent a series of validation and reliability tests to assure its validity and reliability in the context of the study's respondents. The researcher invited five experts to validate and check the alignment of the self-developed survey questionnaire to the study's rationale. The comments and suggestions were applied to modify and improve the survey tool. The internal consistency was evaluated using a test-retest and split-half method. The computed overall Cronbach's Alpha equals 0.82, making the survey tool reliable.

2.5 Data Gathering Procedure

This study used specific steps to impose the data collection needed for the study. The researcher sought the school principal's permission, together with the Division Research Committee, to implement the data collection procedure. After documenting the necessary procedures, the research instrument was disseminated to the target respondents. Before participating in the study, they signed an informed consent attesting to their voluntary participation. After disseminating the research instrument, the researcher checked all the indicators to see if all the boxes were answered.

2.6 Ethical Considerations

To establish and safeguard ethics in conducting this study, the researcher firmly observed the following actions regarding research ethics: the teacher participants' names and identities were not declared in any part of the study, and the researcher used codes for them; teachers as the respondents were not emotionally or physically harmed during the conduct of data collection. The study's participants were not forced to participate; thus, they had the right to refuse participation. They had the right to refuse to answer the question if they felt that they were not comfortable with the given question/s. The researcher cited and observed proper referencing of literature and promoted copyright laws. All participants of the study signed informed consent forms before participating. During the study, all ethical principles were observed. Lastly, the researcher declared no conflict of interest in conducting this study.

3.0 Results and Discussion

3.1 Status of ALS Implementation

In terms of Instructional Methodologies

Results of the analysis in Table 1 posit that, in general, the status of implementation of the ALS program in terms of instructional methodologies is described as implemented, as shown by the general mean value of 4.12 with a standard deviation of 0.56

Table 1. Descriptive statistics of the status of implementation of the ALS program in terms of instructional methodologies

Indicators		Mean	SD	Interpretation
1.	Uses a variety of methods, strategies, and techniques suited to the needs of ALS learners	4.45	0.75	Implemented
2.	Engages ALS learners in oral and written activities.	4.25	0.55	Implemented
3.	Prepares ALS learners to learn at their own pace and style.	4.18	0.51	Implemented
4.	Shows the importance of learning through modeling and team teaching	3.75	0.55	Implemented
5.	Interacts in authentic contexts align with the learning competencies	3.99	0.45	Implemented
Average		**4.12**	**0.56**	**Implemented**

It also indicates that all indicators are rated implemented based on the assessment done by the respondents. The findings show that the instructional practices in the school are suited to the diverse needs of the ALS learners and cover what they need to accomplish and provide to their portfolio. The way the learners are engaged in the learning process is how they want to experience the lesson they are tackling and mastering. The findings corroborate the study of Belmonte (2023), in which ALS learners agreed on the methods and instructional procedures that their teachers and facilitators implemented during the group discussion. The ALS instructional manager uses general principles, pedagogy, and management strategies used for classroom instruction.

In terms of Instructional Materials

The analysis of data on the status of implementation of the ALS program in terms of instructional materials shows that the understudied indicator is described as implemented as a whole based on the general average of 4.15 with a standard deviation of 0.84 (see Table 2).

Table 2. Descriptive statistics of the status of implementation of the ALS program in terms of instructional materials

Indicators		Mean	SD	Interpretation
1.	Prepare the needed materials like the FLT, interview, and ila before engaging the other learner in an activity.	4.10	0.75	Implemented
2.	Designs a program of lessons and sessions suited for a certain learner and follow contextualization and andragogy	4.18	0.78	Implemented
3.	Uses a variety of instructional materials for every learning strand, which is contextualized and localized	4.01	0.83	Implemented
4.	Make sure the instructional materials are suited to the level of the learner for independent learning	4.32	0.95	Implemented
5.	Furnishes a copy of evidence of every activity during the learning process.	4.12	0.89	Implemented
Average		**4.15**	**0.84**	**Implemented**

It also shows that all indicators, as perceived and assessed by the respondents, are described as implemented. This implies that the schools provide the necessary instructional materials, learning activity sheets, and other related learning evidence to sustain the continuity of their independent learning. Moreover, the school is faithful to following contextualization and localization in adult learning instruction or andragogy. As stated in the study of Hero & Cruz (2023), contextualizing the learning materials and the learning process is how ALS learners will

easily acquire learning. Using their experience, ALS learners can easily connect to the topics and lessons they have encountered. Also, the materials they use should differ from those that the learners in formal school use since the learning materials in ALS should focus on relating experiences and life skills.

In terms of Evaluative Techniques

As shown in Table 3, analysis regarding the status of implementation of the ALS program in terms of evaluative techniques is described as implemented as a whole as resonated by the mean values of 4.39 with a standard deviation of 0.73.

Table 3. Descriptive statistics of the status of implementation of the ALS program in terms of evaluative techniques

Indicators	Mean	SD	Interpretation
1. Make the portfolio important for the learners.	4.48	0.70	Implemented
2. Discuss the result of every test /exam with learners and analyze data correctly.	4.37	0.69	Implemented
3. Record data of what has been assessed in the session.	4.21	0.77	Implemented
4. Asks for feedback from the principal or division als focal person	4.30	0.95	Implemented
5. Gives a certificate of appreciation/recognition of learners with remarkable achievement	4.58	0.54	Highly Implemented
Average	**4.39**	**0.73**	**Implemented**

It also shows that most indicators under evaluative techniques are rated implemented. The findings illustrate an understanding that the school is also recognizing ALS learners' hard work and astonishing accomplishments, just like what they are practicing in formal education. Also, I have a portfolio of the management's practical moves, especially during the pandemic. This portfolio helps the learners to be more motivated to finish the ALS program. Thus, the evaluative techniques employed in the program are successful because they are not just to monitor them but also to evaluate their hard work with the principles of quality education. An instructional manager notes information on the things that have been assessed during the session and emphasizes the importance of the portfolio for the students. This further implies that the ALS instructional manager uses formative evaluation procedures for classroom assessment that are comparatively rapid and simple, enabling him to measure student understanding in "real time" (Guerero, 2017; Besmonte, 2023).

In terms of Community Stakeholders and Linkages

As can be gleaned from the analyzed data (Table 4), the ALS program's implementation status in terms of community stakeholders and linkages is described as implemented as a whole based on the general mean value of 4.08 with a standard deviation of 0.78.

Table 4. Descriptive statistics of the status of implementation of the ALS program in terms of community stakeholders and linkages

Indicators	Mean	SD	Interpretation
1. Sourcing out initiatives for prospective linkages and partners.	4.48	0.70	Implemented
2. Inclusion of community partners and linkage to ALS programs and projects.	4.37	0.69	Implemented
3. Intensifies strategies to gain linkages inside and outside the community.	4.21	0.77	Implemented
4. Implements a plan of action for linkages and partners to see the outcome.	4.30	0.95	Implemented
5. Supports morally the ALS programs and projects.	4.58	0.54	Highly Implemented
Average	**4.39**	**0.73**	**Implemented**

It is also noted that all of the indicators are rated implemented. The school needs to intensify the external stakeholders' coordination to ensure their commitment and support for the achievement of learning outcomes and to sustain the good plan implementation performance. This impression corroborates the findings of Cabardo (2016), which highlighted that to sustain good performance, the school and its people should ensure the commitment and trust of the external stakeholders since they play a significant role in sustaining good performance of the implemented plan and program in the school. If the school does not investigate this, it may result in a poor outcome, and even worse, they will not support the school (Hero & Cruz, 2023).

3.2 Difference in the Evaluation of Respondents

As shown in Table 5 is a significant difference in the status of the implementation of the ALS program when grouped according to the perceived assessment of the respondents. The inferential findings and the results of Laquiorez & Perez (2021) on the evaluation conducted in the City of Puerto Princesa, in terms of instructional competence, impact on learners, program delivery, advocacy, and social mobilization on the implementation of

Alternative Learning System, there was a significant difference between how implementers and stakeholders perceived the ALS program performance indicators.

Table 5. Analysis of the difference in evaluation of respondents

Variables	Groups			Source of Variation	SS	MS	F-value	p-value	Decision	Interpretation
	School Personnel	ALS Learners	ALS Alumni							
Perception of Selected Stakeholders on the Status of Implementation of the ALS Program	4.10	4.15	4.05	Between Groups	0.08	0.09	0.12	0.00	Reject the null hypothesis	Significant
				Within Groups	53.88	0.43				
				Total	53.96					

3.3 Proposed Actions

The Alternative Learning System (ALS) was implemented to provide marginalized and out-of-school youths and adults with educational opportunities. Enhancing the ALS program's efficacy necessitates thoroughly comprehending the existing problems and viable solutions. This study aims to suggest specific inputs and management implications that can greatly improve its implementation. Like many other educational institutions, the school has difficulties implementing ALS programs because of resource constraints, differing student demands, and changing educational policies. To address these problems, it is crucial to take a thorough approach, which involves evaluating the current program structure, identifying gaps, and suggesting doable improvement solutions. By focusing on these key areas, this study intends to provide a roadmap for the school to improve its ALS program. This will ensure that more learners can access quality education and develop the skills necessary for personal and professional growth. The ultimate goal is to create a more inclusive and effective learning environment that aligns with the broader objectives of the ALS initiative.

Table 6. Proposed Inputs and Implications

Key-areas	Inputs and Implications	Persons Involved	Time Frame
Instructional Methodologies	Implementing effective instructional methodologies for ALS requires a holistic approach considering its learners' unique characteristics and needs. By ensuring adequate inputs and addressing the management implications, ALS programs can provide meaningful and accessible education to marginalized and underserved populations. This requires coordinated efforts across policy-making, resource allocation, curriculum development, and community involvement, supported by continuous evaluation and improvement.	School Head/Principal, ALS Teacher, External Stakeholder, and Learners	Year-round
Instructional Materials	Contextualized, localized, and indigenous instructional materials are critical for the success of ALS programs. They require careful planning, adequate funding, continuous quality assurance, and regular updates to remain relevant and effective. Managing these materials involves collaboration among educators, policymakers, communities, and learners to ensure that they meet diverse needs and contribute to meaningful learning experiences. By addressing these inputs and management implications, ALS programs can provide high-quality education that is accessible and beneficial to all learners.	School Head/Principal, ALS Teacher, External Stakeholder, and Learners	Year-round
Evaluative Techniques	Effective evaluative techniques are essential for the success of ALS programs, providing critical insights into learner progress and program efficacy. By carefully considering the inputs and addressing the management implications, ALS programs can implement robust evaluation systems that contribute to continuous improvement and better educational outcomes. This holistic approach ensures that evaluation is about measuring performance and enhancing the overall learning experience for all stakeholders.	School Head/Principal, ALS Teacher, External Stakeholder, and Learners	Year-round
Community Stakeholders and Linkages	Engaging community stakeholders and establishing strong linkages are vital for the success and sustainability of ALS programs. By leveraging local resources, knowledge, and support, ALS programs can become more effective and responsive to learners' needs. This involves careful planning, clear communication, and continuous collaboration to build a supportive ecosystem around alternative learning initiatives. By addressing these inputs and management implications, ALS programs can create a more inclusive and community-driven approach to education.	School Head/Principal, ALS Teacher, External Stakeholder, and Learners	Year-round

4.0 Conclusion

The study found that the Alternative Learning System (ALS) program has been effectively implemented, demonstrating that the school adheres to shared governance and promotes inclusive education. A significant difference was observed in stakeholders' views on the program, leading to the rejection of the null hypothesis, highlighting the importance of their perspectives in evaluating the program's success. Additionally, the proposed inputs and management strategies are expected to enhance the long-term implementation of the ALS program, ensuring its continuous improvement within the local context. Future research may explore the impact of the ALS program in other schools and community learning centers to gain broader insights.

5.0 Contributions of Authors

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7.0 Conflict of Interests

Regarding this study, the author has no conflicts of interest.

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Integrating Gonen's Poetry Teaching Framework to Enhance Language Learning Competencies in Senior High School Students

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Abstract. This study assessed the effectiveness of an interactive language learning material, based on Gonen's Poetry Teaching Framework, in improving language skills among senior high school students. A quasi-experimental design was employed, with pretests, formative tests, and posttests for both experimental and comparison groups. Participants were paired based on certain criteria. Data analysis involved various statistical tests to compare scores. The results demonstrated a significant enhancement in students' language skills. Notable differences were observed between formative test scores and pretest and posttest scores for language skills. These findings underscore the importance of employing diverse strategies to meet students' needs better and enhance language learning. Based on these results, the researcher suggests that language and literature teachers may traverse multiple approaches that will cater to the needs of the students and serve as an avenue for enhancing senior high school students' language learning competencies.

Keywords: Gonen's Poetry-Teaching Framework; Language learning competencies; Senior high school, Language learning material.

1.0 Introduction

Literature has long been a cornerstone of secondary and tertiary education, often integrated into English curricula or taught independently. It encompasses human experiences, including love, grief, thoughts, dreams, and aspirations, often described as embodying the good, the true, and the beautiful (Albao et al., 2017). Poetry, a significant genre within literature, captures an author's thoughts and experiences through figurative language and cultural representations, evoking diverse emotions in readers. Its brevity and rhythmic qualities can enhance linguistic awareness and appreciation for contemporary issues. Despite these intrinsic values, poetry is frequently underutilized as a pedagogical tool in language classes (Bobkina & Dominguez, 2014). Students often find poetry challenging to analyze, which diminishes their interest and adversely affects their linguistic competence. This disengagement can lead to poor reading comprehension and a weakened appreciation for literature.

The underutilization of poetry in language instruction is well-documented. Bobkina and Dominguez (2014) note that despite the pedagogical benefits of poetry, such as enhancing critical thinking and language skills, its implementation in the classroom remains limited. Similarly, Albao et al. (2017) emphasize the potential of literature to enrich students' emotional and intellectual development but highlight the lack of effective teaching strategies as a significant barrier. Gonen's Poetry-Teaching Framework offers a structured approach to integrating poetry into language education, promising to address these instructional challenges by fostering student engagement and improving linguistic proficiency.

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This study sought to bridge the gap identified in the existing literature by validating supplementary instructional material for language and literature teachers that incorporates Gonen's Poetry-Teaching Framework. The aim is to enhance poetry teaching in high and senior high school settings. By developing and implementing this material, the study aspires to contribute to educational practices, supporting learners, educators, and future researchers in leveraging poetry as a potent tool for language development. This research holds significance in improving students' reading comprehension and appreciation of literature and offering a sustainable model for integrating poetry into language education.

2.0 Methodology

The study used a quasi-experimental design with pretest and posttest measures. The match-pairing technique was used to determine the experimental and comparison groups. To minimize bias, participants in the experimental group were matched with those in the comparison group based on pretest results. The participants were 60 senior high school students. The match-pairing technique was used to ensure unbiased selection. The criteria and process for matching were based on pretest performance.

The data-gathering activities that were undertaken in this study are described as follows:

Phase 1—Planning Phase. The researcher examined books and related materials for teaching poetry. The researcher referred to checking the Desired Learning Competencies and scope and sequence prescribed by the Department of Education for senior high school students. At this stage, the researcher's goal is to create a POTified Interactive Language Learning Material (PILLM) or guide for teaching poetry. Deciding and determining the specific competencies to be captured in the instructional module will be done in Phase 2.

Phase 2—Designing/Developing Phase. After determining the target learners and the poems and activities to be modularized, the researcher structured the supplementary instructional material. In developing the material, outlined procedures will be adopted to achieve the purpose of this study.

Phase 3—Validation and Tryout Phase. To validate the developed supplemental instructional material in terms of content and structure of the module, presentation of the module, usefulness of the module to its intended users, and expert judgments sought by the researcher. With this, the first drafts of the supplemental instructional material were printed and presented by the researcher to her adviser. Then, the researcher revised the said material based on the comments and suggestions of the adviser, who requested to read and evaluate the material. Afterward, the revised supplemental material was validated by four (4) selected teachers, administrators, and/or curriculum experts.

Phase 4—Evaluation and Finalization Phase. The developed supplemental instructional material is validated through the evaluation of the teacher-respondents in terms of the module's content and structure, presentation, and usefulness, and through the results of the comparison of the pupil's performance in the pretest and posttest. The researcher prepared a letter of consent for approval from the Schools Division Office of Calamba City to ensure the study's formality. After receiving the school head's endorsement, the researcher began conducting this study.

In the study, all the participants were oriented to the intervention material that lasted for at least 3-4 weeks using the "POTified Interactive Language Learning Material (PILLM)." The participants were then given the pretest to identify who was included in the Experimental Group. They were given a copy of the module, which they had read and answered. The researcher met the participants twice weekly to check the learners' progress and ensured that they accomplished the allotted weekly task.

The study utilized a teacher-made module. The module included self-made poems and custom illustrations to avoid copyright issues. Experts validated it before use. The experimental group used the module for 3-4 weeks, meeting twice weekly for progress checks. The comparison group did not receive the module but received feedback. Pretests and posttests were administered and analyzed by a statistician.

3. 0 Results and Discussion

Table 1 presents the pretest mean scores of the experimental and comparison groups, each with a mean score of 14.40. These results indicate that both groups demonstrated relatively low language learning competencies before the intervention, with no significant differences observed. This finding underscores the need for enhanced strategies to improve students' language learning skills.

Table 1. Pretest performance of the experimental and comparison groups

Group	Mean	Five-Number Summary				
		Minimum	25th %	Median	75th %	Maximum
Experimental	14.40	8.00	11.75	15.00	17.00	20.00
Comparison	14.40	8.00	11.75	15.00	17.00	20.00

Legend: 25.00-30.00 = Very High; 20.00-24.00 = High; 15.00-19.00 = Average; 8.00-14.00 = Low; 1.00-7.00 = Very Low

Gonen (2018) highlights the often-overlooked potential of poetry as an effective tool for language teaching. Despite its benefits in expanding human experience and fostering language awareness, poetry is frequently neglected in language education. This study aligns with Gonen's assertion, emphasizing the importance of incorporating poetry to enrich language learning experiences and outcomes.

Table 2. Formative test scores of the experimental and comparison groups

Group	Mean	Five-Number Summary				
		Minimum	25th %	Median	75th %	Maximum
Experimental	23.13	15.00	21.00	22.00	26.25	29.00
Comparison	20.63	14.00	17.75	21.00	23.00	27.00

Legend: 25.00-30.00 = Very High; 20.00-24.00 = High; 15.00-19.00 = Average; 8.00-14.00 = Low; 1.00-7.00 = Very Low

Table 2 displays the formative test mean scores for both groups. The Experimental group achieved a mean score of 23.13, while the comparison group obtained a mean score of 20.63. Although both groups demonstrated high performance, the experimental group outperformed the comparison group. This suggests that the intervention may have positively influenced the experimental group's language learning competencies.

The experimental group's improved performance can be attributed to the implementation of Gonen's Poetry Teaching Framework in the language learning materials. The framework included activities such as modeling poetry reading, writing, and performance, integrating poetry more comprehensively into the curriculum, and revisiting poetry in various contexts, as recommended by Creely (2019). Creely emphasized that such practices are foundational for effective poetry instruction, as they strengthen the connection between poetry and students' experiences, enhancing overall teaching effectiveness.

Furthermore, the language learning materials were designed to improve senior high school students' language competencies by applying Gonen's framework. Aguelo (2017) defines language competencies as the understanding and skill in speaking, listening, reading, and writing in English, which aligns with the module's content. Goria (2019) supports this view, noting that language learning benefits from both formal and informal contexts, including gamification and mobile technology. These elements were incorporated into the module, reflecting modern approaches to enhancing language learning.

Table 3. Posttest performance of the experimental and comparison groups

Group	Mean	Five-Number Summary				
		Minimum	25th %	Median	75th %	Maximum
Experimental	16.90	14.00	15.00	17.00	18.00	23.00
Comparison	13.37	8.00	11.75	14.00	15.25	17.00

Legend: 25.00-30.00 = Very High; 20.00-24.00 = High; 15.00-19.00 = Average; 8.00-14.00 = Low; 1.00-7.00 = Very Low

Table 3 presents the post-test mean scores for both groups. The experimental group achieved a mean score of 16.90, reflecting an average score, while the comparison group had a mean score of 13.37, indicating a low score. These results suggest that the language learning material had a significant positive impact on the experimental

group, as evidenced by their greater improvement in scores compared to the comparison group. This indicates that the intervention effectively enhanced the participants' language learning competencies.

The language learning material appears to have fostered greater student responsibility in their learning. This observation supports Jimenez's (2020) assertion that teachers' creation of Supplementary Learning Materials (SLMs) encourages the development of contextualized resources for diverse learning environments and student populations. Jimenez emphasized that such materials provide opportunities for teachers to create resources tailored to local needs, inspiring them to become writers, illustrators, and designers of their educational materials. This approach ensures that the materials align with students' needs and levels, enhancing their learning experience.

Table 4. Differences in the formative test scores between experimental and comparison groups

Group	Mean	Mean Difference	Test for Equality of Means		
			t-value	df	p-value
Experimental	23.13	2.500	2.831	58	0.006
Comparison	20.63				

Table 4 presents the statistical analysis of the formative test results for senior high school students. The analysis revealed a significant difference between the formative test scores of the experimental and comparison groups, as indicated by a p-value of 0.0006, which is lower than the 0.05 level of significance. This demonstrates a significant improvement in the performance of the experimental group compared to the comparison group after using the language learning material. The results suggest that the experimental group gained a significantly better understanding of the module, implying that the intervention contributed to higher scores. This indicates that incorporating Gonen's Poetry-Teaching Framework into the language-learning material effectively enhanced the students' language-learning competencies.

Supporting this finding, Satinem (2018) observed that teaching students to write poetry enhances their ability to convey everyday life experiences through expressive and engaging language. Poetry, which stimulates the senses through rhythmic and aesthetic arrangements, is a powerful creative expression that communicates profound ideas and emotions. To articulate their thoughts, a poet can use various linguistic tools, such as sentences, paragraphs, vocabulary, diction, and spelling. Similarly, Cahnmann-Taylor (2016) noted that poetry writing provides intellectual tools of inquiry, heightening students' awareness of language nuances and aesthetics. The teacher's role in offering corrective feedback and designing appropriate intervention materials further contributed to the effectiveness of the language learning intervention.

Table 5. Differences in the post-test scores between experimental and comparison groups

Group	Mean	Mean Difference	Test for Equality of Means		
			t-value	df	p-value
Experimental	16.90	3.533	6.061	58	0.000
Comparison	13.37				

Table 5 shows the test of difference between the post-test results of the experimental and comparison groups. The mean score for the experimental group was 16.90, while the mean score for the comparison group was 13.37, resulting in a mean difference of 3.53. This indicates that the experimental group had significantly higher post-test mean scores than the comparison group. The t-value for the test was 6.061, which is statistically significant at $p < 0.05$. This suggests that the difference in post-test mean scores between the experimental and comparison groups was significant and unlikely to have occurred by chance. The results confirm that the intervention had a substantial positive effect on the post-test scores of the experimental group.

This outcome aligns with Thongprayoon's (2020) observations on the importance of language learning competency in a globalized world. Thongprayoon emphasized that understanding intercultural communicative competence is crucial for successful cross-cultural communication, particularly in international contexts where only a few programs aim to teach this skill. Recognizing the characteristics and markers of intercultural communicative competence can aid instructors and course designers facilitate better language learning outcomes.

Similarly, Hoglund and Jusslin (2022) supported that teaching poetry through arts-based methods can transcend traditional curricular boundaries. They noted that poetry education can create engaging, transformative literary encounters and highlighted these engagements' dynamic and performative nature. Implementing multimodal poetry explorations and integrating literature and visual arts exemplifies how teaching methods can enhance the curriculum and foster deeper literary and linguistic appreciation.

Table 6. Differences in the pre-test and post-test scores of the experimental groups

Group	Mean	Mean Difference	Test for Equality of Means		
			t-value	df	p-value
Post-test	16.90	2.50	3.306	29	0.003
Pretest	14.40				

Table 6 presents the test of difference in the experimental group's mean performance. The experimental group's mean score in the pretest was 14.40, while the post-test score was 16.90. The mean difference 2.50 indicates that the experimental group had significantly higher post-test mean scores than the pretest mean scores. This result demonstrates the effectiveness of the module.

Jones and Curwood (2020) observed that young people globally engage with poetry to implement creative literacy practices. Various activities have shown that marginalized youth increasingly use poetry to express their often-silenced voices and receive immediate feedback on their creative work. Through culturally sustaining pedagogy, poetry creates a third space for literacy development, supporting diverse students in strengthening their critical literacy skills. This was demonstrated in a multicase embedded research approach in Sydney, Australia. Kamata (2019) also noted that literary texts provide significant contexts, encompassing extensive vocabulary, fostering critical thinking, and promoting cultural awareness, which catalyzes creative expression. Specifically, poetry—through reading, writing, and sharing—can enhance students' self-esteem, problem-solving skills, self-awareness, and communication abilities. Creative writing exercises encourage active learning and help students understand literature from the inside out, fostering a sense of responsibility for their learning.

4.0 Conclusion

The study examined the impact of interactive language learning material incorporating Gonen's Poetry-Teaching Framework on senior high school students' language learning competency. Participants were divided into experimental and comparison groups, both starting with low pre-test scores. The experimental group, exposed to the new material, showed significantly higher formative and post-test mean scores than the comparison group, which received regular instruction. Independent and paired t-tests confirmed these significant improvements, demonstrating that the module effectively enhances language learning competency. These results suggest that Gonen's Poetry-Teaching Framework can be broadly applied in educational settings to improve language learning. Future research could explore its effectiveness in different age groups and educational contexts and its long-term impact on language proficiency.

The Schools Divisions of Calamba City may consider adopting the PILLM module to be utilized on a wider scale of learners around Calamba City to enhance the language learning competency of senior high school students who have taken specialized subjects in language and literature. The school administrator may encourage language and literature teachers to craft and design a module that will cater to the needs of the students throughout a changing and evolving phase of the curriculum. The teachers may consider enhancing the language learning competency of senior high school students by exploring frameworks that will guide the teachers in teaching poetry. Curriculum planners may update the MELCS within a given timeline to observe changes in the language learning of senior high school students to improve their language learning competency. Future researchers may conduct similar studies to support other subjects in enhancing their targeted learning competency and suit the students' needs.

5.0 Contribution of Authors

SMMC conceptualized a module incorporated into Gonen's Poetry teaching framework as suggested by her consultant – Prof. Richie Mendoza. SMMC created the poems used in the module, pre-test, and post-test. From doing the module to its implementation, the researcher made it possible with the help of her adviser – Dr. Glenn P. Cortezano; validators – Dr. Alvin N. Navarro, Dr. Edna Manaig, Prof. Joseph B. Ancajas, and Ma'am Virginia V. Papas; her panelists – Dr. Alberto D. Yazon, Prof. John Frederick B. Tesoro, and Prof. Cristoper F. Mendoza; and her module illustrators – Mr. Jayvee Ryan F. Banal and Ashley M. Hermida. The researcher also analyzed and interpreted the data from her statistician.

6.0 Funding
The researcher is currently looking for a funding agency.

7.0 Conflict of Interest
There is no conflict of interest.

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Exploring the Role of Harmonized Gender and Development Guidelines (HGDG) in Promoting Gender Sensitivity in Classroom Practices among Educators

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Abstract. This study explored the implementation of the Harmonized Gender and Development Guidelines (HGDG) in educational settings and its impact on student behavior, participation, and learning outcomes. Through a qualitative approach, 12 participants, including students, teachers, a Gender and Development (GAD) coordinator, and a campus executive director, were interviewed to understand their experiences with gender-sensitive practices. The study identified several key challenges in implementing HGDG, including gaps in professional development, insufficient resources, cultural resistance, and a need for clear institutional policies and administrative support. Despite these challenges, participants noted positive behavioral changes, improved student participation, and a greater sense of inclusivity, particularly among female and marginalized students. Gender-sensitive practices such as promoting respect, balanced participation in group activities, and reducing the rigidity of traditional gender roles have contributed to fostering a more inclusive classroom environment. The study further emphasized the need for continuous hands-on training and collaboration with gender sensitivity experts, as well as the improvement of access to gender-sensitive materials and digital resources. Additionally, participants called for stronger leadership involvement and clearer guidelines from school administrators to ensure the consistent application of gender equity principles. Regular monitoring and evaluation of gender-sensitive practices were also identified as essential for sustaining progress and identifying areas for improvement. The study concludes that while significant progress has been made, more efforts are needed to address existing challenges and further integrate gender-sensitive practices into educational institutions. By enhancing professional development, institutional support, and resource availability, schools can create a more equitable and gender-responsive learning environment that benefits all students.

Keywords: Inclusive education; Gender equity; Harmonized Gender and Development Guidelines (HGDG); Professional development; Student participation.

1.0 Introduction

Pursuing gender equity in education has gained increased global attention as educational systems recognized the need to address gender disparities that hindered equal access to opportunities for all students. According to Shen (2023), educational inequality persisted globally due to economic, geographical, and gender-based disparities, which impeded equitable access to quality education. These inequalities affected students' educational experiences and outcomes, disproportionately impacting female and marginalized students. As a result, countries developed frameworks, such as gender-sensitive educational curricula, that aimed to foster inclusive environments (Rogošić & Baranović, 2024). However, despite these efforts, the effective integration of gender-sensitive practices remained uneven, particularly at the classroom level, where teachers' roles were critical in implementing these frameworks (Neumann & Dean, 2024). The Philippines, known for its legislative efforts towards gender equity, faced challenges translating these policies into practice within the educational sector.

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The Republic Act No. 9710, or the Magna Carta of Women (2009), reinforced the state's commitment to addressing gender disparities by mandating the integration of gender-responsive policies and practices in education, among other sectors. This law, along with the Department of Education's (DepEd) Gender and Development (GAD) Policy, established the legal groundwork for schools to incorporate gender equity into their operations and curricula. The Harmonized Gender and Development Guidelines (HGDG) developed by the Philippine Commission on Women (PCW) provided further directives for ensuring that gender mainstreaming efforts were applied across educational institutions. Nevertheless, as Mendoza and Mendoza (2017) asserted, implementing these guidelines often faced barriers, including inadequate teacher training and insufficient monitoring of gender-sensitive practices.

Globally, similar challenges were observed as schools in countries like Croatia struggled to align teacher education curricula with gender sensitivity (Rogošić & Baranović, 2024). This indicated that while frameworks such as the HGDG were crucial, their success depended heavily on the educators' capacity to understand and integrate gender-sensitive practices into their teaching (Duma, 2022). Locally, schools in the Philippines were not exempt from these challenges. Despite the established legal frameworks, there was still a gap between policy and practice, particularly in the classroom environment. This gap necessitated further exploration of how gender-sensitive practices were being implemented at the grassroots level, particularly through the lens of educators tasked with applying these frameworks.

In the Philippine educational system, gender mainstreaming efforts were often met with practical barriers that hindered their full realization. Teachers, often at the forefront of these efforts, were crucial in applying gender-responsive pedagogy in the classroom, yet many faced challenges due to a lack of training or awareness of gender sensitivity frameworks (Khalil et al., 2023). Despite the existence of these frameworks, many classrooms still did not fully embody the gender-sensitive ideals they were meant to promote, leading to an uneven experience for students based on gender. These challenges were further complicated by the diverse socio-cultural contexts of schools nationwide and varying levels of institutional support for gender mainstreaming.

This study aimed to explore the implementation of HGDG in educational settings and how educators incorporated gender-sensitive practices in their teaching. By assessing actual classroom practices and teachers' perceptions regarding the HGDG, the study sought to identify gaps and areas for improvement. The significance of this research lies in its potential to contribute to the body of knowledge on achieving gender equity in education, particularly within the Philippine context, and to inform ongoing efforts to enhance educational practices and promote inclusivity for all students.

2.0 Methodology

2.1 Research Design

This qualitative study utilized a thematic analysis approach to explore the implementation of the Harmonized Gender and Development Guidelines (HGDG) in educational settings. The study employed a descriptive qualitative research design, particularly well-suited for examining complex social phenomena like gender sensitivity in education. Thematic analysis was chosen to identify, analyze, and report recurring patterns or themes within the data collected from participants. Interviews were conducted with diverse participants, including students, teachers, a Gender and Development (GAD) coordinator, and a campus executive director. The data collected through these interviews were systematically coded, with each response categorized according to emerging themes related to gender sensitivity, classroom practices, and the challenges of implementing gender-responsive pedagogy. Thematic analysis facilitated a deep exploration of these themes, enabling the study to capture the nuances of how educators and administrators integrated gender-sensitive practices into their educational settings. This approach provided rich, detailed insights into the barriers and opportunities for advancing gender equity in education, contributing to a better understanding of the real-world application of the HGDG.

2.2 Research Locale

The study was conducted at the Pangasinan State University (PSU) Binmaley Campus, one of the nine campuses of Pangasinan State University. PSU Binmaley Campus is renowned for its distinction as a Center of Excellence for Fisheries, reflecting its commitment to high-quality education and research. Located in the coastal town of

Binmaley, Pangasinan, the campus provides a unique learning environment that integrates academic rigor with practical, hands-on experiences, particularly in fisheries and aquatic sciences. This campus not only serves as a hub for aspiring professionals in fisheries but also offers a diverse range of programs, including a Bachelor of Science in Criminology, a Bachelor of Science in Environmental Science, and a Bachelor of Secondary Education major in Science. The vibrant academic atmosphere, state-of-the-art facilities, and a strong emphasis on research and community engagement make PSU Binmaley Campus an ideal setting for this study on the attitudes towards mathematics among its students. This rich educational landscape ensures that the research findings are grounded in a context that values academic excellence and practical application, thereby providing valuable insights for enhancing mathematics engagement across various disciplines.

2.3 Research Participants

This qualitative study employed a purposive sampling technique to select 12 participants. Purposive sampling was chosen because it allows for the intentional selection of individuals who are most knowledgeable and experienced with the subject matter—in this case, the integration of Harmonized Gender and Development Guidelines (HGDG) in education. The participants were strategically selected to ensure diverse perspectives on gender-sensitive practices within the educational setting. The sample included five students from different educational levels directly impacted by gender-sensitive practices in the classroom. Five teachers were also selected, each with experience in or knowledge of gender-responsive pedagogy and HGDG implementation. Additionally, the study included a Gender and Development (GAD) Coordinator, who plays a crucial role in overseeing the institutional application of gender-related policies, providing valuable insights into the broader gender mainstreaming efforts at the campus level. Lastly, the Campus Executive Director was included to offer an administrative perspective on how the HGDG is integrated at the policy level within the institution. This purposive sampling approach ensured that the study captured a comprehensive and holistic view of gender-sensitive practices and the challenges and opportunities for advancing gender equity in education.

2.4 Research Instrument

This study will employ two instruments to gather qualitative data from the participants. The GAD Coordinator and the Campus Executive Director (CED) will be interviewed in a structured interview. The interview will consist of predetermined, open-ended questions designed to elicit detailed responses about the implementation of Harmonized Gender and Development Guidelines (HGDG) in their respective roles. These interviews will provide insights into the administrative and oversight perspectives of gender mainstreaming efforts within the educational institution.

A written interview will be administered as a survey for the students and teachers. This instrument will contain a series of open-ended questions that allow participants to reflect on their experiences and perceptions of gender-sensitive practices in the classroom. The written format allows for a broader and more flexible participation while ensuring that the respondents can express their thoughts without time constraints or verbal communication. Both instruments are designed to gather rich qualitative data to contribute to the thematic analysis of gender sensitivity in educational settings.

2.5 Data Gathering Procedure

The data-gathering procedure for this qualitative study involved three phases, with interviews lasting 15-20 minutes per participant. First, preliminary meetings were held with the GAD Coordinator and Campus Executive Director (CED), followed by structured face-to-face interviews focusing on their roles in HGDG implementation. Next, written interviews in the form of surveys were electronically distributed to students and teachers, featuring open-ended questions on gender-sensitive classroom practices. Finally, all responses were transcribed, anonymized, and systematically organized for analysis, ensuring a thorough understanding of the integration of HGDG in educational settings while maintaining participant confidentiality.

2.6 Ethical Considerations

Ethical considerations were carefully observed throughout the study to ensure the protection and dignity of all participants. Informed consent was obtained from each participant before data collection, ensuring they fully understood the study's purpose, procedures, and rights. Participants were assured of the confidentiality and anonymity of their responses, with all data securely stored and personal identifiers removed during transcription

and analysis. Participation was voluntary, and participants were informed they could withdraw from the study without any consequences. Additionally, the study adhered to all institutional and legal guidelines concerning research with human subjects, ensuring that ethical standards were maintained at every stage of the research process.

3.0 Results and Discussion

3.1 Familiarization and Implementation of HGDG

Table 1. Familiarization and implementation of HGDG

Participants	Themes	Sub-theme/s
P1, P2, P7, P10, P11, P12	Inconsistent Implementation	Policy enforcement, Need for improvement
P2, P4, P5, P7, P8, P9, P10, P11, P12	Resource Challenges, Lack of Training and Support	Insufficient support, Need for follow-up training
P3, P5, P6, P8, P10, P11, P12	Positive Impact on Student Engagement	Inclusive participation, Mixed-gender activities
P4, P6, P9	Cultural Resistance	Lack of commitment, Conventional teaching methods

Inconsistent Implementation

Participants (P1, P2, P7, P10, P11, P12) reported inconsistencies in implementing HGDG across educational settings. This theme was characterized by issues in policy enforcement and the need for improvement in applying gender-sensitive practices uniformly. Some educators found that while the guidelines were in place, their application varied significantly between schools and classrooms, leading to uneven student experiences. This finding aligns with Mendoza and Mendoza (2017), who pointed out similar challenges in integrating gender equity principles in Laguna's development plans, where policy implementation often lacked consistency and effectiveness. The study suggested that stronger enforcement mechanisms and continuous monitoring were necessary to bridge the gap between policy and practice.

Resource Challenges, Lack of Training and Support

Participants (P2, P4, P5, P7, P8, P9, P10, P11, P12) highlighted the insufficient support and the need for follow-up training as significant barriers to effective HGDG implementation. Many educators expressed the need for more accessible gender-sensitive materials and continuous professional development opportunities to sustain their efforts in promoting gender equity. This challenge was also observed by Duma (2022), who emphasized that the lack of resources and ongoing training hinders the successful application of gender-responsive pedagogy in schools. Additionally, Khalil et al. (2023) noted that higher education institutions face similar struggles, where inadequate training and support undermine the integration of gender sensitivity in teaching practices.

Positive Impact on Student Engagement

Participants (P3, P5, P6, P8, P10, P11, P12) observed a positive impact on student engagement, particularly regarding inclusive participation and mixed-gender activities. Educators reported that students, especially those from marginalized genders, became more engaged when gender-sensitive practices were implemented in classroom discussions and activities. This finding corroborates Neumann and Dean's (2024) study, which found that integrating gender equity in teaching led to increased participation and more inclusive classroom environments. Implementing HGDG helped foster a more welcoming and equitable learning space, encouraging students of all genders to participate more fully.

Cultural Resistance

Participants (P4, P6, P9) identified cultural resistance as a significant challenge in implementing gender-sensitive practices. This resistance was often rooted in a lack of commitment from some educators and the persistence of conventional teaching methods that did not prioritize gender equity. The resistance encountered by participants mirrors the findings of Shen (2023), who discussed the difficulties of overcoming deep-seated cultural norms that resist changes toward greater gender equity in education. Similarly, Omercajic (2022) highlighted how institutional and cultural barriers can hinder the adoption of gender-sensitive practices, particularly in environments where traditional views on gender roles are deeply entrenched.

Overall, the study underscored the complex interplay of factors influencing the implementation of HGDG in educational settings. While there were notable successes in enhancing student engagement and fostering

inclusivity, challenges related to inconsistent implementation, resource limitations, and cultural resistance remained significant obstacles. Addressing these challenges requires a multifaceted approach, including stronger policy enforcement, continuous professional development, and efforts to shift cultural attitudes toward gender equity in education.

3.2 Applied or Observed Gender-sensitive Practices or Policies in the Classroom

Table 2. Applied or observed gender-sensitive practices or policies in the classroom

Participants	Themes	Sub-theme/s
P1, P2, P6, P7, P9, P11	Effective Practices	Equal participation, Avoiding stereotypes
P3, P6, P9, P10, P11, P12	Positive Impact	Inclusive content, Comfort, Engagement
P4, P7, P8, P10	Implementation Gaps	Inconsistent application, Need for reinforcement
P5, P12	Mixed Effectiveness	Student engagement challenges, Comfort issues

Effective Practices

Participants (P1, P2, P6, P7, P9, P11) reported the successful application of effective practices such as promoting equal participation and avoiding stereotypes in classroom activities. These practices were crucial in creating an inclusive environment where all students, regardless of gender, could participate fully and feel valued. The emphasis on avoiding stereotypes in teaching was particularly important in challenging traditional gender roles and fostering a more equitable learning atmosphere. This aligns with the findings of Rogošić and Baranović (2024), who noted that when teacher education curricula are aligned with gender sensitivity, educators are better equipped to implement practices that promote equity and inclusivity. The study demonstrated that these effective practices significantly improved classroom dynamics and ensured all students had equal opportunities to engage and succeed.

Positive Impact

Participants (P3, P6, P9, P10, P11, P12) observed a positive impact on students due to implementing gender-sensitive practices, particularly inclusive content, increased comfort, and enhanced engagement. Educators noted that when lessons included content that was sensitive to gender issues and inclusive of diverse perspectives, students responded positively by participating more actively and feeling more comfortable in expressing themselves. This observation is supported by Neumann and Dean (2024), who found that inclusive teaching practices lead to better student engagement and a more supportive classroom environment. The positive impact of these practices highlights the importance of integrating gender sensitivity into the curriculum to foster a learning environment where all students can thrive.

Implementation Gaps

Participants (P4, P7, P8, P10) identified implementation gaps as a significant challenge, noting the inconsistent application of gender-sensitive practices across different classrooms and the need for reinforcement to sustain these efforts. These gaps were often due to variations in how teachers understood and applied gender sensitivity, leading to uneven student experiences. The study by Duma (2022) similarly identified challenges in maintaining consistency in gender-responsive pedagogy, emphasizing the need for ongoing support and training to ensure these practices are applied uniformly. The findings suggest that to close these implementation gaps; there needs to be a stronger emphasis on professional development and institutional support.

Mixed Effectiveness

Participants (P5, P12) reported mixed effectiveness in integrating gender-sensitive practices, with challenges related to student engagement and comfort issues. While some students responded well to these practices, others struggled to engage fully or felt uncomfortable with the changes. This mixed effectiveness highlights the complexity of implementing gender sensitivity in diverse classroom environments, where students may have different readiness levels or acceptance of these practices. Shen (2023) discussed similar challenges in promoting gender equity in education, noting that deeply ingrained cultural attitudes can affect how students respond to gender-sensitive initiatives. The findings underscore the need for tailored approaches that consider different student groups' specific needs and contexts to enhance the effectiveness of gender-sensitive practices.

In conclusion, the study revealed successes and challenges in implementing gender-sensitive classroom practices—effective practices such as promoting equal participation and avoiding stereotypes positively impacted student engagement and inclusivity. However, implementation gaps and mixed effectiveness in some contexts highlighted the need for ongoing support, training, and tailored approaches to ensure all students benefit from these initiatives. Addressing these challenges is essential for advancing gender equity in education and creating a more inclusive learning environment.

3.3 Challenges Encountered in Integrating Gender Sensitivity in Teaching or Administrative Services

Table 3. Challenges encountered in integrating gender sensitivity in teaching or administrative services

Participants	Themes	Sub-theme/s
P1, P3, P7, P8, P9	Professional Development Gaps	Insufficient training, Lack of continuous training
P2, P5, P7, P10, P12	Cultural Barriers	Resistance from students and colleagues
P3, P4, P6, P9, P11	Resource Challenges	Gender bias in materials, Lack of resources
P7, P9, P10, P12	Institutional Barriers	Lack of support, Absence of policies
P4, P6, P11	Curriculum Integration Challenges	Time constraints, Lack of curriculum guidelines

Professional Development Gaps

Participants (P1, P3, P7, P8, P9) frequently highlighted professional development gaps, particularly insufficient training and continuous training opportunities. Many educators felt inadequately prepared to effectively implement gender-sensitive practices due to the limited professional development provided by their institutions. This aligns with the findings of Duma (2022), who emphasized that continuous professional development is crucial for sustaining gender-responsive pedagogy. Without ongoing training, educators may struggle to keep up with best practices in gender sensitivity, leading to inconsistent application and potential setbacks in promoting gender equity in the classroom.

Cultural Barriers

Participants (P2, P5, P7, P10, P12) reported encountering cultural barriers, including resistance from students and colleagues. These barriers often stemmed from entrenched cultural norms and traditional views on gender roles, making it difficult to implement gender-sensitive practices. This resistance reflects the broader societal challenges discussed by Shen (2023), who noted that cultural resistance to gender equity initiatives is a significant obstacle in educational reform. Overcoming these cultural barriers requires changes in teaching practices and broader efforts to shift societal attitudes toward gender equity.

Resource Challenges

Participants (P3, P4, P6, P9, P11) identified resource challenges as a major hindrance, particularly the gender bias in materials and a general lack of resources necessary for implementing gender-sensitive practices. The presence of gender-biased educational materials complicates efforts to promote gender equity, as these materials may reinforce stereotypes rather than challenge them. Neumann and Dean (2024) highlighted the impact of resource limitations on the effectiveness of gender-sensitive teaching, emphasizing the need for educational materials that align with gender equity goals. Addressing these resource challenges is essential for ensuring educators have the tools to foster an inclusive learning environment.

Institutional Barriers

Participants (P7, P9, P10, P12) also reported institutional barriers, including a lack of support from school leadership and the absence of clear policies on gender sensitivity. These institutional barriers often left educators without the necessary guidance or backing to implement gender-sensitive practices effectively. Omercajic (2022) discussed similar challenges, noting that without strong institutional support and clear policies, efforts to promote gender equity can be fragmented and inconsistent. Institutional commitment is crucial for creating an environment where gender sensitivity is prioritized and supported across all levels of the educational system.

Curriculum Integration Challenges

Finally, participants (P4, P6, P11) pointed to curriculum integration challenges, such as time constraints and the lack of curriculum guidelines for incorporating gender sensitivity into teaching. These challenges made it difficult for educators to balance the demands of the existing curriculum with the need to integrate gender-sensitive practices. Rogošić and Baranović (2024) identified similar issues in their study, where the lack of clear guidelines

on gender sensitivity in teacher education curricula hindered the effective integration of these principles into everyday teaching. To overcome these challenges, it is important to develop comprehensive curriculum guidelines that support the integration of gender sensitivity without overburdening educators.

In conclusion, the study revealed various challenges in integrating gender sensitivity into educational practices, including gaps in professional development, cultural and resource barriers, institutional obstacles, and difficulties in curriculum integration. Addressing these challenges requires a multifaceted approach that includes ongoing training, resource provision, institutional support, and clear curriculum guidelines. By tackling these issues, educational institutions can create a more supportive environment for gender-sensitive practices, ultimately advancing gender equity in education.

3.4 Impact of the Implementation of HGDG on Student Behavior, Participation, or Overall Learning Outcomes

Table 4. Impact of the implementation of HGDG on student behavior, participation, or overall learning outcomes

Participants	Themes	Sub-theme/s
P1, P4, P6, P10	Positive Behavioral Changes	Respect, Collaboration, Group dynamics
P2, P8, P11	Increased Engagement	Female engagement, Marginalized engagement
P3, P7, P9, P10	Positive Shifts in Learning Outcomes	Awareness, Breaking gender roles
P5, P7, P12	Mixed Outcomes	Resistance, Traditional views
P2, P4, P6, P8, P10	Gender Parity in Participation	Balanced participation, Mixed-gender collaboration

Positive Behavioral Changes

Participants (P1, P4, P6, P10) observed positive behavioral changes in students, particularly regarding increased respect, collaboration, and improved group dynamics. These changes were most evident in mixed-gender settings, where students exhibited greater respect for one another and worked more effectively together. This finding aligns with the observations of Rogošić and Baranović (2024), who noted that gender-sensitive practices contribute to more harmonious and productive student interactions by challenging traditional gender norms. The positive behavioral shifts suggest that implementing HGDG helps create a more inclusive and cooperative classroom environment, benefiting all students.

Increased Engagement

Participants (P2, P8, P11) reported increased engagement among students, particularly among female students and those from marginalized groups. These students were more likely to participate actively in class discussions and activities when gender-sensitive practices were applied, feeling more comfortable and valued in the classroom environment. Neumann and Dean (2024) also found that gender-sensitive teaching practices significantly boost engagement among previously marginalized students, indicating that such practices play a crucial role in leveling the playing field and promoting inclusivity in education. The increased engagement underscores the importance of creating a supportive environment where all students feel empowered to contribute.

Positive Shifts in Learning Outcomes

Participants (P3, P7, P9, P10) noted positive shifts in learning outcomes, with students demonstrating greater awareness of gender issues and a willingness to break away from traditional gender roles. These shifts reflected students' ability to think critically about gender norms and engage in discussions that challenge conventional perspectives. Duma (2022) highlighted similar outcomes in their study, where integrating gender-responsive pedagogy significantly improved students' critical thinking and understanding of gender dynamics. The positive shifts in learning outcomes indicate that HGDG implementation affects behavior and enhances students' intellectual engagement with gender-related topics.

Mixed Outcomes

Participants (P5, P7, P12) experienced mixed outcomes in implementing HGDG, with some students resisting or holding onto traditional views. While many students benefited from gender-sensitive practices, others struggled to accept or adapt to these changes, reflecting the deep-seated cultural attitudes that can hinder progress in gender equity. Shen (2023) discussed similar challenges, noting that cultural resistance remains a significant barrier to successfully implementing gender equity initiatives in education. The mixed outcomes suggest that while progress has been made, ongoing efforts are needed to address resistance and support all students in embracing gender-sensitive practices.

Gender Parity in Participation

Participants (P2, P4, P6, P8, P10) observed greater gender parity, more balanced participation and improved mixed-gender collaboration in classroom activities. Implementing HGDG helped ensure that both male and female students participated more equally in discussions and group work, fostering a more inclusive classroom environment. This finding is supported by Khalil et al. (2023), who found that gender-sensitive practices lead to more equitable participation among students, helping to break down gender barriers and promote collaborative learning. The achievement of gender parity in participation is a significant indicator of the success of HGDG in promoting equity and inclusivity in education.

In conclusion, the study demonstrated that implementing HGDG has positively impacted student behavior, participation, and learning outcomes, particularly in promoting respect, engagement, and gender parity. However, mixed outcomes due to cultural resistance highlight the need for ongoing support and reinforcement of gender-sensitive practices. Addressing these challenges is essential for sustaining progress and ensuring that all students benefit from a more inclusive and equitable educational environment.

3.5 Recommendation on Additional Support, Resources, or Training to Further Enhance Gender Sensitivity

Table 5. Recommendation on additional support, resources, or training to further enhance gender sensitivity

Participants	Themes	Sub-theme/s
P1, P3, P5, P10	Professional Development	Hands-on training, External collaboration
P2, P6, P8, P11	Resource Improvement	Access to materials, Digital resources
P4, P7, P9, P12	Administrative and Policy Support	Clear guidelines, Active leadership
P7, P9, P12	Cultural and Institutional Support	Supportive culture, Ongoing priority
P8, P9, P12	Monitoring and Evaluation	Regular assessments, Continuous improvement

Professional Development

Participants (P1, P3, P5, P10) strongly recommended increased professional development opportunities, emphasizing the need for hands-on training and external collaboration with gender sensitivity experts. Participants believed that practical, experiential learning and insights from external specialists would better equip educators to implement gender-sensitive practices effectively. This recommendation aligns with the findings of Duma (2022), who emphasized the critical role of continuous professional development in sustaining gender-responsive pedagogy. Khalil et al. (2023) also highlighted the value of external expertise in enhancing the depth and breadth of gender sensitivity training, reinforcing the importance of collaborative learning.

Resource Improvement

Participants (P2, P6, P8, P11) identified the need for resource improvement, particularly regarding better access to materials and digital resources that promote gender equity. The lack of readily available and culturally relevant gender-sensitive teaching materials was seen as a significant barrier to effective implementation. Neumann and Dean (2024) also underscored the importance of providing educators with high-quality, gender-sensitive resources to support their teaching practices. The call for improved digital resources reflects the growing recognition of technology's role in education and its potential to facilitate more inclusive and equitable learning experiences.

Administrative and Policy Support

Participants (P4, P7, P9, P12) emphasized the need for stronger administrative and policy support, including developing clear guidelines and active leadership involvement in promoting gender sensitivity. The participants pointed out that without clear policies and visible commitment from school leadership, implementing gender-sensitive practices could be inconsistent and lack the necessary institutional backing. This recommendation is consistent with Omercajic (2022), who stressed the importance of institutional leadership in driving and sustaining gender equity initiatives. Clear guidelines and proactive leadership are essential for creating a cohesive and supportive environment where gender-sensitive practices can thrive.

Cultural and Institutional Support

Participants (P7, P9, P12) also highlighted the importance of fostering cultural and institutional support for gender sensitivity, advocating for establishing a supportive school culture where gender equity is an ongoing priority.

The need for a positive institutional culture that prioritizes gender sensitivity is crucial for the long-term success of these initiatives. Rogošić and Baranović (2024) pointed out that a supportive institutional culture is key to embedding gender sensitivity into the everyday practices of educators and students alike. By prioritizing gender equity at the cultural level, schools can create a more inclusive environment that supports the sustained implementation of gender-sensitive practices.

Monitoring and Evaluation

Finally, participants (P8, P9, P12) recommended regularly monitoring and evaluating gender-sensitive practices to ensure continuous improvement. They emphasized the importance of regular assessments to track these practices' effectiveness and identify areas that require further development. Duma (2022) highlighted the role of ongoing evaluation in maintaining the momentum of gender equity initiatives, ensuring that they remain effective and responsive to the school community's needs. Regular monitoring and evaluation provide the feedback necessary to refine and enhance gender-sensitive practices, contributing to their long-term success.

In conclusion, the study's recommendations underscore the need for comprehensive and sustained efforts to enhance gender sensitivity in educational settings. Professional development, resource improvement, administrative and policy support, cultural and institutional backing, and regular monitoring and evaluation are all crucial components of a successful strategy to promote gender equity. Addressing these areas will help to ensure that gender-sensitive practices are effectively implemented and sustained, creating a more inclusive and equitable learning environment for all students.

4.0 Conclusion

The findings of this study demonstrate that while implementing the Harmonized Gender and Development Guidelines (HGDG) has led to positive changes in student behavior, participation, and learning outcomes, several challenges remain in ensuring its full integration into educational settings. Key challenges identified include gaps in professional development, insufficient resources, cultural resistance, and the need for clearer institutional policies and administrative support. However, the study also highlights the positive impact of gender-sensitive practices, particularly in fostering respect, inclusivity, and gender parity among students. To further enhance the successful implementation of HGDG, continuous professional development, improved access to gender-sensitive resources, stronger institutional commitment, and regular monitoring and evaluation are necessary. Addressing these areas will help sustain progress and create a more gender-responsive educational environment that benefits all learners.

5.0 Contributions of Authors

This study was conducted solely by the author, who was responsible for all aspects of the research. The author independently carried out the findings' writing, editing, data gathering, coding, and interpretation. The author meticulously managed every stage of the research process, from conceptualization to final reporting, to ensure the study's integrity and coherence. This comprehensive involvement underscores the author's dedication and expertise in the subject matter.

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7.0 Conflict of Interests

The author indicated that there are no conflicts of interest in the publication of this paper.

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Compliance with Business Permits and Licensing System Requirements: Effects on Business Performance and Satisfaction Among MSMEs

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Abstract. This study investigated the relationships and differences among compliance levels, business performance, and satisfaction with the Business Permits and Licensing System (BPLS) requirements among 390 Micro, Small, and Medium Enterprises (MSMEs) in Iloilo City, Philippines. Using a descriptive, quantitative, and correlational design, the study sampled MSMEs from various industry sectors using the Input-Process-Output (IPO) model. Results show that MSMEs, particularly in sectors C and D, reported high compliance with BPLS requirements. It implies strong adherence to the requirement, suggesting effective engagement with the regulatory system. They also rated their business performance, including changes in gross sales, sales growth, capitalization, capital turnover, employee numbers, and overall satisfaction, as very good to excellent. It suggests they are experiencing strong financial performance, indicating a positive economic impact. High satisfaction with BPLS was also noted, which implies that the system is easy and efficient, leading to improved compliance and more favorable business conditions. T-tests and ANOVA revealed differences and similarities in compliance, business performance, and satisfaction across different business types and sectors, suggesting that these factors are affected by specific attributes of each business group. Pearson's correlation analysis indicated a negligible relationship between compliance and business performance, a very strong positive relationship between compliance and satisfaction, and a weak positive relationship between business performance and satisfaction. It implies that compliance significantly enhances satisfaction and has little impact on business performance. The study's recommendations, such as fully implementing an electronic BPLS and customer feedback system as part of the EODB law and including additional financial indicators in the unified application form, are of utmost importance. Future research should extend the analysis to other cities and local governments in the Visayas to further explore the linkage between compliance, business performance, and satisfaction.

Keywords: Business performance; Business permits and licensing system (BPLS); Compliance; Iloilo City, Philippines; Micro, small, and medium enterprises (MSMEs); Satisfaction.

1.0 Introduction

Micro, Small, and Medium Enterprises (MSMEs) are widely recognized as the backbone of the Philippine economy, playing a pivotal role in fostering economic growth and stability. MSMEs contribute significantly to the country's economic fabric, accounting for 99 percent of total business establishments, generating 63 percent of employment, and contributing 40 percent to the Gross Domestic Product (Department of Trade and Industry, 2020). Beyond their direct contributions, MSMEs also serve as critical suppliers and service providers to larger enterprises, further embedding themselves into the broader economic ecosystem. The vitality of MSMEs is evident

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in their ability to enhance consumer welfare, support corporate expansion, generate tax revenue, and bolster the overall competitiveness of the Philippine economy.

As conceptualized by Michael Porter (as cited in Delgado et al., 2012), competitiveness hinges on the productivity and performance of enterprises, sub-sectors, or nations in delivering goods and services to the market. Productivity serves as a key indicator of economic performance, with the aggregated business outcomes across various sectors—including MSMEs—reflecting the overall economic health of a nation (Atkinson, 2013). Therefore, business performance becomes crucial, encompassing financial and non-financial metrics that contribute to a firm's competitiveness. Financial indicators include revenue growth, profit margins, return on equity, and employee satisfaction, while non-financial indicators focus on customer retention, brand development, employee engagement, and market share (Kotane & Merlino, 2012; Fatihudin et al., 2018). For MSMEs, robust business performance is essential for their growth, sustainability, and ability to drive broader economic development.

In recognition of the strategic importance of MSMEs, the Philippine government has enacted various policies to enhance their business performance and, by extension, national competitiveness. One such policy is the Ease of Doing Business (EODB) Law, a legislative measure aimed at streamlining government processes to foster a more conducive business environment (SEPO, 2012; DTI, 2021; Bhasin, 2019). The EODB Law is particularly relevant at the microeconomic level, where its impact on the performance of individual MSMEs is profound. According to Ketels (2014), drawing on Porter's framework, government intervention is critical in shaping a nation's economic performance. The EODB Law, by simplifying regulatory processes and improving service delivery, seeks to remove barriers to business operations, thereby enhancing the competitiveness of MSMEs.

A central component of the EODB Law is the Business Permits and Licensing System (BPLS), which aims to standardize and speed up obtaining business permits. The BPLS introduces a more efficient, transparent, and streamlined system, including implementing a Business One-Stop-Shop (BOSS), a unified application form, standardized requirements, and clear processing timelines (Joint Memorandum Circular, 2021). These reforms reduce the bureaucratic burden on businesses, improving their operational efficiency and overall performance. Furthermore, the EODB Law emphasizes the importance of client satisfaction as a metric for evaluating the success of these reforms. Implementing a feedback system, particularly through client satisfaction surveys, ensures that the reforms meet the business community's needs (Khadka & Maharjan, 2017; Hague & Hague, 2021).

While the EODB Law and its provisions, such as the BPLS, are intended to foster a more competitive business environment for MSMEs, there is a notable gap in the literature concerning the specific impact of BPLS compliance on the business performance of MSMEs in Iloilo City. Existing studies have largely focused on the broader implications of the EODB Law, with limited attention to how compliance with BPLS requirements influences individual MSME performance. This gap is significant, given that compliance with regulatory frameworks often determines business success, affecting access to resources, customer satisfaction, and overall competitiveness.

This study investigated the extent of compliance with BPLS requirements among MSMEs in Iloilo City and assessed how this compliance influences their business performance. By addressing this gap, the study aims to contribute to a more nuanced understanding of regulatory compliance's role in shaping the business outcomes of MSMEs. The findings of this research will provide insights into the effectiveness of the EODB Law in enhancing MSME performance and offer valuable implications for policymakers seeking further support for the growth and competitiveness of this vital sector.

2.0 Methodology

2.1 Research Design

The descriptive research method was used to evaluate the extent of compliance, level of business performance, and satisfaction of MSMEs. According to McCombes (2019), a descriptive research technique tries to characterize a population, circumstance, or phenomenon accurately and methodically. With this approach, the researcher only observes and collects data on the variables without exerting any control or manipulation over them. Furthermore, according to Akhtar (2016), descriptive or statistical research describes things as they happen. This study design identifies specific issues, such as those about groups, people, and communities, and knowledge is gathered. As a

result, it provides information on social structure, events, and circumstances and responds to what, who, how, when, and where queries.

2.2 Research Participants

The population of this survey was obtained from the list of MSMEs registered in the Iloilo City local government as of 2021. The total number of MSMEs registered as of January 2022 is 16,066 (LEDIP Office, 2021). Using Slovin's formula, a sample size of 390 is needed. The primary data was gathered from the MSMEs located in different districts of Iloilo City through survey questionnaires; those districts were Arevalo, City Proper, Jaro, Lapaz, Mandurriao, and Molo. Likewise, the secondary data was gathered from the office of the Local Economic Development and Investment Promotion (LEDIP) of the Local Government Unit (LGU) of Iloilo City. The study respondents were based on the total sample size computed and stratified according to the (1) type of enterprises and (2) type of industry sectors.

2.3 Research Instrument

The research instrument is a self-made instrument consist of a four-part (4) questionnaire based on and aligned with the study's independent and dependent variables. Part A of the questionnaire refers to the respondents' business profiles. It allows the respondents to supply basic information such as the company name, person-in-charge, trade name, business address, contact details, type of organization, business enterprise, and industry sectors of MSMEs, which can be found in the BPLS forms. Part B of the questionnaire refers to the extent of compliance of MSMEs. It has two subparts allowing respondents to rate their compliance with BPLS requirements using the semantic differential scale. Part C of the questionnaire refers to the level of business performance of MSMEs. It has three subparts that allow the respondents to rate their business performance in terms of change in gross sales/receipts, change in capitalization, and change in number of employees. Part D of the questionnaire refers to the level of satisfaction of MSMEs with BPLS requirements. Four subparts allow the respondents to rate their satisfaction with BPLS requirements.

The questionnaire's reliability was determined and estimated through the pilot testing and subsequent validation (Royse et al., 2017). The pilot test findings gave the researchers an overall Cronbach's alpha score of 0.984. Therefore, the research instrument is trustworthy.

2.4 Data Gathering Instrument

A face-to-face survey was conducted using a pre-designed survey form for the primary data collection. In the secondary data collection, a formal letter was sent to request approval from the local economic development and investment promotion (LEDIP) office to provide the required data. This data will then be analyzed and simplified to highlight the necessary information, like the primary data, focusing on key indicators, such as the type of application, organization, business enterprises, industry sector, number of employees, gross sales/receipts, and capitalization.

2.5 Data Analysis

The statistical package for social science (SPSS) was used to process and analyze the data. The business profiles of the MSMEs were analyzed and interpreted when grouped according to the type of business enterprise and industry sectors. The extent of compliance of MSMEs with the BPLS requirements was analyzed and interpreted as a whole, and the groups were grouped according to the type of business enterprises and industry sectors using the SPSS tool. The level of satisfaction of MSMEs with the BPLS requirements was analyzed and interpreted as a whole and grouped according to the type of business enterprises and industry sectors using the SPSS tool. The level of business performance of MSMEs in terms of gross sales/receipts, capitalization, and the number of employees was analyzed and interpreted as a whole and grouped according to the type of business enterprises and industry sectors using the SPSS tool. The differences between the extent of compliance of MSMEs with the BPLS requirements, the level of business performance of MSMEs in terms of gross sales/receipts, capitalization, and the number of employees, and the level of satisfaction of MSMEs with the BPLS requirements when grouped according to the type of business enterprises, and industry sectors were analyzed and interpreted using the T-test and analysis of variance (ANOVA). The relationship between the extent of compliance, level of business performance, and satisfaction of MSMEs was analyzed and interpreted using Pearson R.

2.6 Ethical Consideration

The ethical concerns of this study were considered and addressed. According to Bryan and Bell, 2007 (as cited in Dudovskiy, 2019), (a) research participants should not be subjected to harm in any way whatsoever, (b) research participants should be prioritized with respect, (c) full consent should be obtained, (d) Protection of the privacy of the participants, (e) ensure the adequate level of confidentiality of research data, (f) ensure the anonymity of individuals and organizations, (g) avoid any deception or exaggeration of research aims and objectives, (h) affiliations, sources of funding, and conflict of interest should be disclosed, (i) ensure the honesty and transparency of communication, and (j) avoid misleading of information and prejudice to representation of primary data. The researcher excluded offensive, discriminatory, or unacceptable language from the formulated research questionnaires. The researcher prioritized the privacy of the respondents, adhering to the Philippine Data Privacy Act of 2012. This study maintained the highest level of objectivity in discussions and analyses throughout the research.

The risks encountered were the extent of compliance and business performance awareness of the respondents with BPLS requirements. The respondents may have answered the survey with partial knowledge about compliance procedures and the company's current business performance situation, which may affect the accuracy of the results. The respondents were engaged voluntarily without any payment involved. Using the results of this study, the respondents would be able to increase their awareness and understanding of the existing requirements and services of the local government. It would also enhance and improve the operations and services of the BPLS requirements by formulating and implementing strategic resolutions that will eventually be economically effective.

When responding to the extent of compliance with BPLS requirements, level of business performance, and level of customer satisfaction, the researcher avoided any conflict, or the appearance of a conflict, between personal interests and the interests of the respondents and the local government. Participants who had a conflict of interest or direct or indirect financial interest in the result of any transaction with the target respondents or the local government, whether they did so individually or collectively, were not allowed to participate in the study.

3.0 Results and Discussion

3.1 Business Profile of MSMEs

As shown in Table 1, the total of 390 MSMEs, when grouped according to the type of business enterprise, of 85% (332 out of 390) of the respondents are from micro business enterprise, 10% (39 out of 390) are from small business enterprise, and 5% (19 out of 390) are from the medium business enterprise. Likewise, when the MSMEs are grouped according to the type of industry sector, 4% (18 out of 390) of the respondents are from the Group A sector, 3% (10 out of 390) are from the Group B sector, 42% (165 out of 390) are from Group C sector, and 51% (197 out of 390) are from Group D sector.

Table 1. Descriptive statistics of the business profile of the respondents

	Frequency	Percentage
Type of Business Enterprise		
Micro	332	85%
Small	39	10%
Medium	19	5.0%
Type of Industry Sector		
Group A	18	4.0%
Group B	10	3.0%
Group C	165	42%
Group D	197	51%
Total	**390**	**100%**

3.2 Compliance of MSMEs with BPLS Requirements

Table 2 shows the MSMEs' rating in the extent of compliance with BPLS requirements when taken as a whole and grouped according to the type of business enterprise and industry sectors. When taken as a whole, the extent of compliance of MSMEs with BPLS requirements when respondents are taken is rated Very Highly Compliant. When grouped according to the type of business enterprise, the respondents from micro, small, and medium

enterprises rated the extent of compliance of MSMEs with BPLS requirements as Very Highly Compliant. When grouped according to industry sector type, the respondents from Group A, Group B, Group C, and Group D sectors rated the extent of MSMEs' compliance with BPLS requirements as Very Highly Compliant.

Table 2. Descriptive statistics of the extent of compliance of MSMEs with BPLS requirements

	Mean	N	SD	Interpretation
Type of Business Enterprise				
Micro	6.21	332	0.65	Very Highly Compliant
Small	6.26	39	0.83	Very Highly Compliant
Medium	6.08	19	1.01	Very Highly Compliant
Type of Industry Sector				
Group A	6.18	18	0.33	Very Highly Compliant
Group B	6.55	10	0.14	Very Highly Compliant
Group C	6.41	165	0.55	Very Highly Compliant
Group D	6.04	197	0.79	Very Highly Compliant
Total	**6.21**	**390**	**0.69**	**Very Highly Compliant**

Legend: 1.00 – 2.2 - Not Compliant, 2.21 – 3.4 – Less Compliant, 3.41 – 4.60 - Moderately Compliant, 4.61 – 5.80 - Highly Compliant, 5.81 – 7.00- Very Highly Compliant

The result is consistent with the secondary data gathered from the local city government of Iloilo City. The data shows that the population of MSMEs fully complied with renewal and new applications for business permits and licenses. However, the data do not reveal the list of MSMEs that ceased to renew or applied for them. Though the result is seemingly as favorable as expected, for individuals who desire to launch their firm, the capacity to adhere to the standards presents another difficulty, so the government insisted on streamlining all agency's processes in compliance with EODB law (Crismundo, 2017). Complying with applied EODB government requirements, particularly the BPLS requirements, is the most basic, however important for starting business individuals (Bhasin, K., 2019). Although mandatory, small to medium businesses are willing to comply with the essential local requirements as this decreases the apparent consequences of not complying with them (Milano, 2018). Further, individual business owners believe that rules and regulations can help them more than harm them, as this will improve their business operations (Canare, 2018).

3.3 Business Performance of MSMEs

In terms of Gross Sales/Receipts

Table 3 shows the level of business performance of MSMEs in terms of gross sales/receipts when taken as a whole and grouped according to the type of business enterprises and industry sectors.

Table 3. Descriptive statistics of the level of business performance of MSMEs in terms of gross sales/receipts

	Mean	N	SD	Interpretation
Type of Business Enterprise				
Micro	4.93	332	1.05	Very Good
Small	5.26	39	1.15	Very Good
Medium	4.76	19	1.27	Very Good
Type of Industry Sector				
Group A	6.39	18	0.53	Excellent
Group B	6.50	10	0.47	Excellent
Group C	4.83	165	1.19	Very Good
Group D	4.85	197	0.86	Very Good
Total	**4.96**	**390**	**1.08**	**Very Good**

Legend: 1.00 – 2.2 – Poor, 2.21 – 3.4 – Fair, 3.41 – 4.60 – Good, 4.61 – 5.80 - Very Good, 5.81 – 7.00 – Excellent

When taken as a whole, the level of business performance of MSMEs in terms of gross sales/receipts is rated Very Good when respondents are taken as a whole. When grouped according to the type of business enterprise, the respondents from micro, small, and medium enterprises rated the level of business performance of MSMEs in

terms of gross sales/receipts as Very Good. When grouped according to the type of industry sector, the respondents from Group A and Group B sectors rated the level of business performance of MSMEs in terms of gross sales/receipts as Excellent. On the other hand, the respondents from Group C and Group D sectors rated the level of business performance of MSMEs in terms of gross sales/receipts as Very Good.

In terms of Capitalization

Table 4 shows the level of business performance of MSMEs in terms of capitalization when taken as a whole and grouped according to the type of business enterprises and industry sectors. When taken as a whole, the level of business performance of MSMEs in terms of capitalization when respondents are taken is rated Very Good. When grouped according to the type of business enterprise, the respondents from micro, small, and medium enterprises rated the level of business performance of MSMEs in terms of capitalization as Very Good. When grouped according to the type of industry sector, the respondents from Group A and Group B sectors rated the capitalization level of MSMEs' business performance as Excellent. On the other hand, the respondents from the Group C and Group D sectors rated the capitalization level of MSMEs' business performance as Very Good.

Table 4. Descriptive statistics of the level of business performance of MSMEs in terms of capitalization

Capitalization	Mean	N	SD	Interpretation
Type of Business Enterprise				
Micro	4.87	332	1.07	Very Good
Small	5.23	39	1.17	Very Good
Medium	4.66	19	1.29	Very Good
Type of Industry Sector				
Group A	5.97	18	0.63	Excellent
Group B	6.65	10	0.47	Excellent
Group C	4.75	165	1.20	Very Good
Group D	4.83	197	0.91	Very Good
Total	**4.89**	**390**	**1.09**	**Very Good**

In terms of the Number of Employees

Table 5 shows the level of business performance of MSMEs in terms of number of employees, taken as a whole, and grouped according to the type of business enterprise and industry sectors. When taken as a whole, the level of business performance of MSMEs in terms of several employees when the respondents are rated Very Good. When grouped according to the type of business enterprise, the respondents from micro, small, and medium enterprises rated the level of business performance of MSMEs in terms of number of employees as Very Good. When grouped according to the type of industry sector, the respondents from Group A and Group B sectors rated the level of business performance of MSMEs in terms of number of employees as Excellent. On the other hand, Group C and Group D sectors rated the level of business performance of MSMEs in terms of the number of employees as Very Good.

Table 5. Descriptive statistics of the level of business performance of MSMEs in terms of number of employees

Number of Employees	Mean	N	SD	Interpretation
Type of Business Enterprise				
Micro	5.17	332	0.90	Very Good
Small	5.24	39	1.16	Very Good
Medium	4.68	19	1.33	Very Good
Type of Industry Sector				
Group A	6.11	18	0.50	Excellent
Group B	6.50	10	0.41	Excellent
Group C	4.96	165	1.01	Very Good
Group D	5.17	197	0.85	Very Good
Total	**5.16**	**390**	**0.96**	**Very Good**

These results are consistent with the national competitiveness index, as DTI (2022) reported that the Philippines improved and managed to rank 48th out of sixty-three countries in 2022 from 52nd place in 2021. The result is also consistent with the local competitiveness index, as the city of Iloilo ranked first among highly urbanized cities in the country for 2022 (DTI, 2022).

3.4 Satisfaction of MSMEs with BPLS Requirements

Table 6 shows MSMEs' ratings of the level of satisfaction of MSMEs with BPLS requirements when taken as a whole and grouped according to the type of business enterprises and industry sectors. When taken as a whole, the level of satisfaction of MSMEs with BPLS requirements when respondents are taken is rated Very Highly Satisfied. When grouped according to the type of business enterprise, the respondents from micro, small, and medium enterprises rated the level of satisfaction of MSMEs with BPLS requirements as Very Highly Satisfied. When grouped according to the type of industry sector, the respondents from Group A, Group B, Group C, and Group D sectors rated the satisfaction of MSMEs with BPLS requirements as Very Highly Satisfied.

Table 6. Descriptive statistics of the level of satisfaction of MSMEs with BPLS requirements

	Mean	N	SD	Interpretation
Type of Business Enterprise				
Micro	6.17	18	0.37	Very Highly Satisfied
Small	6.40	10	0.22	Very Highly Satisfied
Medium	6.18	165	0.60	Very Highly Satisfied
Type of Industry Sector				
Group A	6.17	18	0.37	Very Highly Satisfied
Group B	6.40	10	0.22	Very Highly Satisfied
Group C	6.18	165	0.60	Very Highly Satisfied
Group D	5.92	197	0.78	Very Highly Satisfied
Total	**6.06**	**390**	**0.70**	**Very Highly Satisfied**

A similar outcome, a very satisfactory result, was pointed out by a survey conducted by OIDCI (2015) in Batangas City after the initial implementation of reformation and streamlining. A post-EODB law, in which the local government implemented BOSS, standard processing time, and steps, revealed that MSMEs are very highly satisfied with the BPLS requirements. From a business enterprise perspective, micro, small, and medium-sized businesses responded that they are highly satisfied with BPLS requirements.

Although MSMEs are highly satisfied with BPLS requirements, Francisco et al. (2020) states that the government must continue to strive to reduce the regulatory burden on businesses, particularly younger, smaller companies whose potential as engines of economic growth and job creation is compromised by the time and financial costs of compliance. Further, the business individuals will still comply with the law but should continue to seek improved services (Francisco et al., 2020).

3.5 Difference in Extent of Compliance of MSMEs with BPLS Requirements

Table 7 shows a significant difference in the extent to which MSMEs comply with BPLS requirements when grouped according to the type of business enterprise and industry sectors.

Table 7. Difference in the extent of compliance of MSMEs with BPLS requirements

Compliance	Sum of Squares	df	Mean Square	F	Sig.	Interpretation
Type Of Business Enterprise						
Between Groups	0.400	2	0.20	0.42	0.659	Not Significant
Within Groups	185.6	387	0.48			
Total	186.0	389				
Type of Industry Sector						
Between Groups	13.49	3	4.50	10.1	0.000	Significant
Within Groups	172.5	386	0.45			
Total	186.0	389				

Results show no difference in the extent of MSMEs' compliance with BPLS requirements when the respondents are grouped according to the type of business enterprise. A probability of 0.659 is greater than the significance level, which is 0.05. Furthermore, results show a difference in the extent of MSMEs' compliance with BPLS requirements when the respondents are grouped according to the type of industry sector. A probability of 0.000 is less than the significance level, which is 0.05. Likewise, post hoc results show a difference in the extent of compliance of MSMEs with BPLS requirements when the respondents are grouped according to the type of industry sector between respondents from Group B and Group C sectors in favor of Group B. Moreover, there is a significant difference in the extent of compliance of MSMEs with BPLS requirements when the respondents are grouped according to the type of industry sector between respondents from Group D and Group C sectors in favor of Group C.

3.6 Difference in the Business Performance of MSMEs

In terms of Gross Sales/Receipts

Table 8 shows the difference in the business performance of MSMEs in terms of gross sales/receipts when grouped according to the type of business enterprises and industry sectors. Results show no difference in the business performance of MSMEs in terms of gross sales/receipts when the respondents are grouped according to the type of business enterprise. A probability of 0.147 is greater than the significance level, which is 0.05. Furthermore, results show a difference in the business performance of MSMEs in terms of gross sales/receipts when the respondents are grouped according to the type of industry sector. A probability of 0.000 is less than the significance level, which is 0.05.

Post hoc results show that there is a difference in the business performance of MSMEs in terms of gross sales/receipts when the respondents are grouped according to the type of industry sector between respondents from Group A and Group C sectors in favor of Group A, and between respondents from Group A and Group D sectors in favor of Group A. Moreover, there is also a difference in the business performance of MSMEs in terms of gross sales/receipts when the respondents are grouped according to the type of industry sector between respondents from Group B and Group C sectors in favor of Group B and between respondents from Group B and Group D sectors in favor of Group B.

Table 8. Difference in the business performance of MSMEs in terms of gross sales/receipts

Gross Sales/Receipts	Sum of Squares	df	Mean Square	F	Sig.	Interpretation
Type Of Business Enterprise						
Between Groups	4.438	2	2.219	1.928	0.147	Not Significant
Within Groups	445.5	387	1.151			
Total	449.9	389				
Type of Industry Sector						
Between Groups	65.59	3	21.86	21.96	0.000	Significant
Within Groups	384.4	386	0.996			
Total	449.9	389				

In terms of Capitalization

Table 9 shows the difference in the business performance of MSMEs in terms of capitalization grouped according to the type of business enterprises and industry sectors. Results show no difference in the business performance of MSMEs in terms of capitalization when the respondents are grouped according to the type of business enterprise. A probability of 0.091 is greater than the significance level, which is 0.05. Furthermore, results show a difference in the business performance of MSMEs in terms of capitalization when the respondents are grouped according to the type of industry sector. A probability of 0.000 is less than the significance level, which is 0.05.

Post hoc results show that there is a difference in the business performance of MSMEs in terms of capitalization when the respondents are grouped according to the type of industry sector between respondents from Group A and Group C sectors in favor of Group A, and between respondents from Group A and Group D sectors in favor of Group A. Moreover, there is also a difference in the business performance of MSMEs in terms of capitalization when the respondents are grouped according to the type of industry sector between respondents from Group B

and Group C sectors in favor of Group B and between respondents from Group B and Group D sectors in favor of Group B.

Table 9. Differences in the business performance of MSMEs in terms of capitalization

Capitalization	Sum of Squares	df	Mean Square	F	Sig.	Interpretation
Type Of Business Enterprise						
Between Groups	5.716	2	2.858	2.409	0.091	Not Significant
Within Groups	459.1	387	1.186			
Total	464.8	389				
Type of Industry Sector						
Between Groups	56.21	3	18.74	17.70	0.000	Significant
Within Groups	408.6	386	1.059			
Total	464.8	389				

In terms of the Number of Employees

Table 10 shows the difference in the business performance of MSMEs in terms of the number of employees when grouped according to the type of business enterprises and type of industry sectors. Results show no difference in the business performance of MSMEs regarding the number of employees when the respondents are grouped according to the type of business enterprise. A probability of 0.080 is greater than the significance level, which is 0.05. Furthermore, results show a difference in the business performance of MSMEs regarding the number of employees when the respondents are grouped according to the type of industry sector. A probability of 0.000 is less than the significance level, which is 0.05.

Post hoc results show that there is a difference in the business performance of MSMEs in terms of the number of employees when the respondents are grouped according to the type of industry sector: respondents from Group A and Group C sectors favor Group A and respondents from Group A and Group D sectors favor Group A. Moreover, when the respondents are grouped according to the type of industry sector, there is also a difference in the business performance of MSMEs in terms of number of employees between respondents from Group B and Group C sectors in favor of Group B and between respondents from Group B and Group D sectors in favor of Group B. Furthermore, there is also a difference in the business performance of MSMEs regarding the number of employees when the respondents are grouped according to the type of industry sector between respondents from Group D and Group C sectors in favor of Group D.

Table 10. Differences in the business performance of MSMEs in terms of number of employees

Number of Employees	Sum of Squares	df	Mean Square	F	Sig.	Interpretation
Type Of Business Enterprise						
Between Groups	4.610	2	2.305	2.543	0.080	Not Significant
Within Groups	350.8	387	0.906			
Total	355.4	389				
Type of Industry Sector						
Between Groups	40.99	3	13.66	16.78	0.000	Significant
Within Groups	314.4	386	0.814			
Total	355.4	389				

3.7 Difference in the Satisfaction of MSMEs with BPLS Requirements

Table 11 shows the difference in the level of satisfaction of MSMEs with BPLS requirements when grouped according to the type of business enterprises and industry sectors. Results show no difference in the level of satisfaction of MSMEs with BPLS requirements when the respondents are grouped according to the type of business enterprise. A probability of 0.632 is greater than the significance level of 0.05. Furthermore, results show a difference in the level of satisfaction of MSMEs with BPLS requirements when the respondents are grouped according to the type of industry sector. A probability of 0.001 is less than the significance level, which is 0.05.

Post hoc results show a difference in the level of satisfaction of MSMEs with BPLS requirements when the respondents are grouped according to the type of industry sector between respondents from Group B and Group D sectors in 229favor of Group B. Moreover, there is also a significant difference in the level of satisfaction of MSMEs with BPLS requirements when the respondents are grouped according to the type of industry sector between respondents from Group D and Group C sectors in favor of Group C.

Table 11. Differences in the level of satisfaction of MSMEs with BPLS requirements

Satisfaction	Sum of Squares	df	Mean Square	F	Sig.	Interpretation
Type Of Business Enterprise						
Between Groups	0.445	2	0.223	0.459	0.632	Not Significant
Within Groups	187.9	387	0.486			
Total	188.3	389				
Type of Industry Sector						
Between Groups	7.533	3	2.511	5.361	0.001	Significant
Within Groups	180.8	386	0.468			
Total	188.3	389				

3.8 Relationship Between Compliance, Business Performance, and Satisfaction of MSMEs

Table 12 shows the significant relationship between the extent of compliance, level of business performance, and satisfaction of MSMEs. Results show a Very Strong, Positive Relationship between the level of satisfaction and the extent of compliance of MSMEs with BPLS requirements, which is significant at the 0.05 significance level. A probability of 0.000 is less than the significance level, which is 0.05. Moreover, results show a No or Negligible Relationship between business performance and the extent of compliance of MSMEs with BPLS requirements, which is not significant at the 0.05 significance level. A probability of 0.098 is greater than the significance level, which is 0.05.

Table 12. Relationship between the extent of compliance, level of business performance, and satisfaction of MSMEs

	Compliance			
	r	**Description**	**Sig. (2-tailed)**	**Interpretation**
Satisfaction	0.745	Very Strong Positive	0.000	Significant
Performance	0.084	No/Negligible	0.098	Not Significant

Table 13 shows the relationship between business performance and satisfaction of MSMEs. Results show a Weak, Positive Relationship between business performance and satisfaction of MSMEs with BPLS requirements, which is significant at the 0.05 significance level. A probability of 0.000 is less than the significance level, which is 0.05.

Table 13. Relationship between the level of business performance and satisfaction of MSMEs

	Performance			
	r	**Description**	**Sig. (2-tailed)**	**Interpretation**
Satisfaction	0.200	Weak Positive	0.000	Significant

This result agrees with the study made by Jatmiko et al. (2021) that cooperation with government rules and regulations becomes necessary to strengthen MSME ties and enhance competitiveness, which will eventually increase the level of satisfaction of customers with the services of the government. In contrast, however, on the relationship between the level of compliance and business performance, the business organizations, instead of concentrating on creating enterprise-wide ways for compliance to generate much-needed efficiencies, on fulfilling compliance deadlines. As a result, more regulatory violations could have resulted in financial and reputational consequences (Kasozi & Brandon, 2018). However, in the same study made by Kasozi & Brandon (2018), the participants indicated a range of ways that performance would increase if staff complied more, including creating high-quality work environments, establishing the proper compliance culture from the beginning, and delegating heads of departments to regularly assess their staff compliance levels in order to pinpoint compliance improvement efforts by identifying winning strategies and low-hanging fruit.

However, this result was in contrast with the study by Francisco et al. (2020), which stated that compliance with government regulation in general has an impact on the performance and growth of the company. However, the same study mentioned that the electronic business process licensing System (e-BPLS), an online system designed to shorten processing time during business registration or renewal, had a higher chance of growing for MSMEs. Alam (2020) and Celis (2018) also explained that maintaining business compliance improves operational efficiency and safety because it allows reviewing suggested business practices to strengthen and safeguard the company's operations and resources.

From MSMEs' customer perspectives, the result agrees with the study made by Zakari (2020) that customer satisfaction in business is positively affected by business performance (Zakari, 2020). Likewise, it concurred with the study of Williams and Naumann (2021) that there are significant and moderate-to-strong associations between satisfaction levels and a firm's financial and market performance (Williams & Naumann, 2021).

4.0 Conclusion

The study concludes that MSMEs in Iloilo City comply highly with the Business Permits and Licensing System (BPLS) requirements, leading to notable business performance and high satisfaction levels. This strong compliance and satisfaction were consistent across various business enterprises, though differences emerged when analyzed by industry sector. Notably, while compliance did not significantly impact business performance, it was strongly associated with higher satisfaction levels, and there was a weak positive relationship between business performance and satisfaction with BPLS requirements. These findings imply that effective and streamlined BPLS processes are crucial for enhancing satisfaction among MSMEs, which can, in turn, foster a more favorable business environment. The study suggests that policymakers should continue simplifying and tailoring BPLS processes to sustain high compliance and satisfaction, ultimately supporting the growth and stability of MSMEs across different sectors.

5.0 Contribution of Authors

Author 1 proved crucial in developing the research hypothesis, designing the methodology, collecting and analyzing data, writing the initial manuscript, and managing the project's progress. Author 2 offered overall supervision and guidance throughout the study, from initial concept to completion. His contributions offered valuable insights and expertise that improved the study's conceptual framework and methodological procedure. He served a key role in scrutinizing the manuscript, assuring its scientific integrity and consistency.

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7.0 Conflict of Interest

The authors affirm no conflicts of interest about the publication of this document.

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Bridging the Skills Gap: Examining the Electronics Technology Students' Competence and Industry Demands

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Abstract. Educational institutions often struggle to keep up with the emerging trends in the electronics industry, leading to a gap between what students learn in their programs and what is in demand in the job market. Beyond technical skills, electronics technology students also need to develop soft skills vital for success in any job but can sometimes be overlooked in traditional academic settings. Previous studies reported a skills gap between industry demands and students' preparedness. Thus, this study determined the skills demanded by the electronics industry in Leyte, emphasizing both technical and soft skills; it also explored the acquired skills of the electronics technology students based on their experiences. This study employed mixed-method research, specifically the convergent parallel design, wherein quantitative and qualitative data were collected simultaneously and analyzed separately. For the quantitative data collection, 21 online job postings were utilized in the web scrapping technique and were limited to Leyte province only. For the qualitative data collection, an interview was conducted with 14 purposively selected 4th-year Electronics Technology students. Descriptive statistics were used to summarize quantitative data, while qualitative data underwent thematic analysis. Results revealed a skills gap among electronics students, influenced by the dearth of electronics-related industries and job openings in the province. Most employers require technical skills in troubleshooting and maintaining electronic systems. Being keen on details, being customer-oriented, and working well as a team are the necessary soft skills. The qualitative findings from the interview complement the quantitative results. The implication is clear for educational institutions that soft skills development should be emphasized in educational programs, preparing students technically and socially for the workplace.

Keywords: Electronics technology students; Employability; Graduates; Jobs; Skills gap.

1.0 Introduction

The global skills gap presents a significant challenge to organizations worldwide. Universities serve as institutions for cultivating specialized human talent, and access to university education indicates a country's production of skilled personnel (Abdulla, 2013). Rising economic growth and development in the Philippines signifies a drive to enhance the economy's resilience and competitiveness (Surya et al., 2021). Labor productivity can be raised through improved quality and quantity of education and training, including constant skills upgrading and lifelong learning. However, for education and training to successfully raise productivity, there is a need to focus on the internal and external efficiency of education and training programs (Jackson & Bridgstock, 2021). Neglecting the emphasis on internal and external efficiency could stem from a discrepancy in the number of graduates available for the industrial and services sectors. Similarly, this mismatch might lead to an oversupply of graduates ill-suited for the job market, consequently driving up unemployment rates. The electronics industry is pivotal in driving innovation and shaping economies in today's rapidly evolving technological landscape. The

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electronics industry is characterized by its continuous advancements and dynamic nature, resulting in a growing need for employees with technical and adaptive skills that align with emerging trends. New tools, programming languages, hardware, and software frameworks emerge frequently. Educational institutions often struggle to keep up with the latest trends, leading to a gap between what students learn in their programs and what is in demand in the job market.

While classroom learning is essential, hands-on practical experience is equally important (Treceñe, 2022), if not more so, for electronics technology fields. Students need opportunities to work with real-world projects, troubleshoot issues, and collaborate with others to develop problem-solving and teamwork skills that are valued in the industry. Beyond technical skills, electronics technology students must also develop soft skills such as communication, teamwork, critical thinking, and adaptability. These skills are vital for success in any job but can sometimes be overlooked in traditional academic settings. The Philippine electronics industry is the main driver of the nation's manufacturing sector, according to the Department of Trade and Industry [DTI]. In 2013, the industry generated US$ 918 million in domestic and international investments, 41% of all exports, and employed 2.2 million people. Since member companies want to transition to greater value-added production to fulfill global demand, the industry's potential is still quite high. Over the next several years, these organizations want to grow their workforce further, increase their present research and development and design skills, and enhance their manufacturing capacity. By determining consumers' needs, comprehending suppliers' baseline capabilities, constructing relevant capabilities, matching industry supply and demand, and conducting regular performance evaluations, the industry is trying to raise the country's electronics manufacturing index. In addition, the industry recommends that higher education provide programs for operators and technicians, improve the country's business environment, conduct more research and development capability, and continue to strengthen the curriculum of the institutions to match the industry demands (Cornillez Jr, 2020). However, significant concern remains about the mismatch between the skills possessed by electronics technology students and the skills demanded by the industry for optimal employability.

Existing academic programs may lack the agility to adapt their curricula to the industry's rapid changes, leading to a discrepancy between the skills acquired by students and those demanded by employers. Bridging this gap is essential for ensuring that electronics technology graduates are adequately prepared for the demands of the workforce. The disconnection between academia and industry has raised a compelling concern regarding the preparedness of electronics technology graduates for the job market. The existing academic programs may not be equipped to rapidly adapt their curricula to keep pace with the swiftly evolving industry landscape. Consequently, graduates with degrees often lack the practical and cutting-edge skills employers require, leading to potential underemployment or a slow integration into the workforce. This dichotomy frustrates students and hinders the industry from tapping into a pool of skilled professionals.

Job sites are important in graduates' employment journey, offering many benefits that significantly streamline the job search process. These platforms serve as a centralized hub for job listings, catering to various industries and sectors. Graduates can easily access many opportunities, making the employment search considerably more efficient than traditional methods. While job sites have certainly made job listings more accessible, the issue of skills alignment remains a significant concern. Employers often seek specific skills, competencies, and qualifications that may not perfectly align with what graduates have acquired through their educational experiences.

Previous studies have addressed skills gap phenomena across various industries and regional contexts (Angafor et al., 2020; Suroysuroy, 2023), highlighting inherent issues with the pipeline from education to employment. However, a more thorough examination is important in the particular field of electronic technology. Few studies have been conducted concerning the skills the electronics industry needs, including technical expertise and essential soft skills. Thus, understanding the industry's unique skill set is essential to provide direction-focused curricular improvements. Moreover, there is a gap in the literature concerning the evaluation of the existing curriculum of Electronics Technology. While studies acknowledge the need to adapt and enhance higher education curricula to align with industry demands (Okolie et al., 2020; Sarin, 2019), there is a lack of in-depth analysis focused on the electronics technology discipline. Identifying certain gaps in the curriculum will provide educators and policymakers with crucial knowledge to address deficiencies and improve graduates'

preparedness. Furthermore, little investigation has been conducted regarding the regional aspect of the skills gap in the electronics industry. According to Loquias (2015), there is a skills gap among electronics students, which is impacted by the dearth of electronics-related industries and job openings in some provinces. In the case of Leyte province, its economy is largely based on agriculture, fishing, and some manufacturing companies. The province is not a major hub for electronics manufacturing companies, limiting the availability of jobs in the electronics field. Nevertheless, an in-depth evaluation of the regional disparities in skill acquisition and industry demands is lacking, resulting in a significant knowledge gap concerning location-specific opportunities and challenges. In light of these, this study aimed to (1) determine the skills demanded by the electronics industry in the region, emphasizing both technical and soft skills, and (2) explore the acquired technical and soft skills of the electronics technology students based on their experiences. The study seeks to contribute valuable insights to the ongoing discourse on addressing the skills gap in the electronics industry and higher education.

To accomplish the objectives, the study employed data mining techniques to extract information from numerous online job platforms in the Philippines, including Indeed, JobStreet, LinkedIn, and Online Jobs. This data was utilized to conduct an in-depth analysis of the skills and qualifications sought by employers. The research also incorporated interviews with electronics students to gain a more comprehensive understanding of students' skill development, allowing for insights derived from their self-assessments regarding their acquired skills. This study will provide a data-driven approach to inform curriculum improvements and teaching strategies within the electronics technology program. By identifying the specific skills and qualifications demanded by the industry through data mining techniques, school administrators can tailor the curriculum to align with current industry needs, ensuring that graduates are better prepared for the job market. This aligns with the university's mission to provide relevant and high-quality education. Moreover, this study will promote the importance of bridging the gap between academia and industry, providing stronger partnerships that can lead to internships and collaborations, and enhancing student opportunities. Such collaborations can also facilitate research and development efforts, benefiting academia and the electronics industry. Lastly, this study can potentially improve the current practice of education by making it more responsive to industry demands, eventually enhancing graduates' employability and strengthening the university's reputation as a source of skilled and industry-ready professionals.

2.0 Methodology

This study aims to identify patterns and trends in job postings, including salary ranges, academic qualifications, technical skills, and soft skills. Also, it quantifies the students' technical and soft skills as emphasized in the academic curricula of the BS Industrial Technology major in Electronics program. Moreover, qualitative insights from students regarding the skills they acquired during their academic studies were also gathered. This study employed mixed-method research, specifically using a convergent parallel design. This method collected quantitative and qualitative data simultaneously and analyzed separately (Demir & Pesmik, 2018). After the analyses, the results will be integrated and compared to the conclusion. For the quantitative data collection, job postings from Indeed, Job Street, and online jobs ph were collected using the web scrapping technique done using Python programming and executed in Jupyter Notebook. The following data points were extracted: salary information, academic qualification requirements, and technical and soft skills. During the job posting scrapping, search was limited to Leyte only, part of the Eastern Visayas Region in the Philippines, from January 1, 2022, to September 30, 2023. Key terms such as “electronics,” “electronics technician,” and “electronics engineer” were used in the study. After saving the data in CSV format, the following criteria were implemented: the job posting must be directly related to electronics, the job posting must be a technical job, and it should be within the Leyte Province. After implementing the criteria, from 78 job postings, 21 were used in the study. An interview with the Electronics Technology students was conducted for the simultaneous qualitative data collection. A purposive sampling was employed to select 4th-year students in their On-the-Job Training. Structured interview protocols were used to conduct interviews with 14 students. The interviews were used to explore the skills they believe they have acquired during their academic studies. During the interview, informed consent was secured to inform the voluntary participation of the participants. Descriptive statistics such as frequency distribution were used to summarize quantitative data obtained from job postings. Moreover, qualitative data from student interviews underwent thematic analysis to identify common themes and patterns related to skills acquired during academic studies (Braun & Clarke, 2013). According to Braun and Clarke (2013), the 6-phase coding framework for thematic analysis was used to identify themes and patterns in the data (Braun & Clarke, 2006). The analysis method includes

familiarizing data, generating codes, combining codes into themes, reviewing themes, determining significant themes, and reporting findings. Findings from the quantitative analysis of job data and qualitative analysis of student interviews were integrated to provide a holistic understanding of the alignment between academic programs and job market demands. This research study followed ethical guidelines.

3.0 Results and Discussion

3.1 Quantitative Phase

Table 1 shows the salary bracket of the various job postings scrapped from the three job sites. Most electronics jobs in Leyte are between Php 15 000 and Php 11 000 (42.86%), while 33.33% are within the salary range of Php 24 00 – Php 16 000. Moreover, 14.29% are within the range of Php 10 000 below, while only 9.52% are Php 25 000 and above. The prevalence of mid-range salary offerings suggests a standardized remuneration structure in the region, potentially influenced by local economic factors. Wages and salary structures differ in the Philippines depending on several factors, including industry, working hours, type of employment, education, and professional experience (Caligagan et al., 2022). However, it depends on the entity's location; those working in the major cities of business districts receive higher pay than those working in provincial areas. In the Eastern Visayas Region, particularly in Leyte, there will be a second-tranche increase in wages in 2023 (Meniano, 2022). The minimum wage for non-agricultural workers in retail and service sectors increased from PHP350 to PHP375 per day.

Table 1. Salary bracket of the job postings

Salary Bracket	Frequency	Percentage
Php 25, 000 and above	2	9.52
Php 24, 000 - Php 16, 000	7	33.33
Php 15, 000 - Php 11, 000	9	42.86
Php 10, 000 and below	3	14.29
Total	21	100.00

Table 2 provides an overview of the technical skills requirement based on the various job postings in Leyte, which were scrapped online from Indeed, Job Street, and online jobs ph. Troubleshooting and Repair of Electronic Equipment is highlighted as an essential requirement for electronics technology students, with a frequency of 4 and a percentage of 10.0%. This suggests that a significant percentage of the job advertisements highlight the requirement for applicants to have experience finding and repairing issues with electronic devices. Moreover, Equipment Inventory and Systems Monitoring, along with Conducting Preventive and Reactive Maintenance of Electronic Systems, both have frequencies of 6 and percentages of 15.0%. These skills highlight how important it is for applicants to have experience with proactive and reactive maintenance procedures, system monitoring, and inventory management of equipment. Furthermore, Maintenance in Laboratories, Equipment/System Installation and Modification, and Performing Detailed Data Gathering, Reporting, and Documentation each have frequencies of 3, constituting 7.5% of the total requirements. This suggests that proficiency in maintaining laboratory equipment, installing and modifying systems, and thorough data handling and reporting are essential in many job postings. Similarly, Knowledge of Electronics Theory and Industry Standards shows a similar percentage (7.5%), emphasizing the importance of a basic understanding of electronics theory and being familiar with industry standards. Lastly, Equipment and System Testing, Design, and Layout of Printed Circuit Board (PCB), including its Requirements, comprise 5.0% of the total skills requirements. Meanwhile, 12.5% of the online job postings in Leyte are about skills in embedded systems.

For electronics graduates to perform successfully in the workplace or for the organization to succeed, they need to be trained in the essential skills (Ayeng, 2023). The emphasis on technical skills such as laboratory maintenance, equipment or system installation and modification, and detailed data gathering, reporting, and documentation underscores the multidimensional nature of electronics job requirements. Wang and Parker (2020) posit that industries nowadays demand diverse skill sets to cope with the evolving nature of electronics jobs. Moreover, according to Carminati and Scandurra (2021), the growing technological complexity in embedded systems is reflected in the importance of skills in that field. Additionally, factors that an electronics graduate consists of are both knowledge and skills. In contrast, school factors comprise the curriculum, placement program, physical and laboratory facilities, OJT program, industry linkages, enhanced teaching strategies (TRECEÑE, 2023), and skills enhancement program (Loquias, 2015).

Table 2. Technical skills requirements from the job postings

Technical Skills	Frequency	Percentage
Troubleshooting and Repair of Electronic Equipment	4	10.0
Equipment Inventory and Systems Monitoring	6	15.0
Conduct Preventive and Reactive Maintenance of Electronic Systems	6	15.0
Maintenance in Laboratories	3	7.5
Equipment/System Installation and Modification	3	7.5
Performs Detailed Data Gathering, Reporting and Documentation	6	15.0
Knowledge of Electronics Theory and Industry Standard	3	7.5
Equipment and System Testing	2	5.0
Design and Layout of Printed Circuit Board (PCB), including its Requirements	2	5.0
Embedded Systems	5	12.5
Total	40	100

Table 3 shows the soft skills needed by electronics-related jobs in Leyte, as extracted from online Indeed, Jobstreet, and OnlineJobsPH postings. Among the soft skills considered essential, customer orientation stands out as one that appears three times and accounts for 16.7% of the overall criteria. Given the client-centric nature of these industries, this emphasizes how important it is for applicants to recognize and prioritize the customer's demands. In addition, 16.7% for "Ability to Work Effectively in a Collaborative Team Environment" and "Building Productive Trusts" both highlight the importance of interpersonal relationships and teamwork, demonstrating the collaborative nature of Leyte's electronics-related positions. These soft skills highlight how crucial it is to develop positive relationships and productive teamwork to meet the demands of the jobs.

Furthermore, the demand for "Detailed-Oriented" soft skills is quite common, with 22.2% suggesting that tasks involving electronics place a high value on accuracy and precision. This makes sense, given how complex and systematic such a job is. While "Responsible and Hardworking" only occurs twice, accounting for 11.1% of the total, it shows how important responsibility and diligence are in these jobs. According to Loquias (2015), soft skills useful for jobs are critical thinking, problem-solving, and communication skills. The qualitative findings from the interview with electronics students complement the quantitative results. The job advertisements emphasized soft skills such as customer orientation, collaborative teamwork, and building productive trust. The research outlining the increasing focus on client-centric approaches in technology-related fields (Lee et al., 2021) supports the importance of customer orientation.

Furthermore, the demand for detail-oriented skills aligns with the quantitative findings, emphasizing the importance of meticulousness in electronics-related tasks. The implication is clear for both educational institutions and employers. Soft skills development should be integrated into educational programs, preparing students technically and socially for the workplace. Employers should recognize the significance of these soft skills in ensuring the success of their workforce and consider incorporating them into their hiring criteria.

Table 3. Soft skills requirements from the job postings

Soft Skills	Frequency	Percentage
Customer-Oriented	3	16.7
Build Productive Trusts	3	16.7
Ability To Work Effectively in a Collaborative Team Environment.	3	16.7
Detailed-Oriented	4	22.2
Responsible and Hardworking	2	11.1
Contribute Innovative Idea	1	5.6
Excellent Problem-Solving Skills	1	5.6
Communication Skills	1	5.6
Total	18	100

3.2. Qualitative Phase

An interview was conducted with the 4th year electronics students of the Eastern Visayas State University on the skills acquired based on their experiences throughout their studies. The data were analyzed using Braun and Clarke's (2006) 6-phase coding framework for thematic analysis. Results were categorized into soft and technical skills; both developed four themes. Soft skills include communication skills, collaborative abilities, cognitive skills, and professionalism. In contrast, technical skills include Network Cable Management and Troubleshooting, Computer Hardware Maintenance, Electronic Systems Integration and Testing, and Electronic Infrastructure Management. The identified skills and salary trends are crucial for electronics students, educational institutions,

and employers. For students, understanding the predominant skill requirements and salary expectations guides skill development and career planning. Educational institutions can leverage this information to align curriculum with industry demands, enhancing graduates' employability. Employers benefit by gaining insights into the prevalent skill sets and salary expectations, aiding in recruiting and retaining skilled professionals.

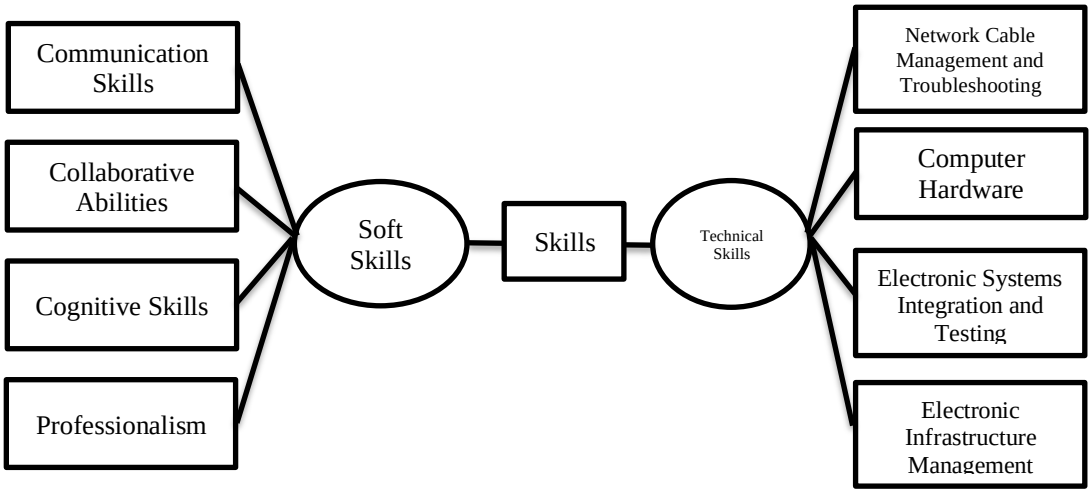

Figure 1. Results from the interviews conducted to students on their soft and technical skills

4.0 Conclusion

This study explored the multifaceted context of electronics-related employment in Leyte, Philippines, by examining online job postings and understanding how students acquired soft and technical skills during their studies. The study revealed that the salary of the electronics job market in Leyte is in the mid-range, which reflects the region's standard salary remuneration structure. The findings emphasized the importance of technical and soft skills in the electronics industry, highlighting skills in troubleshooting, maintenance, and customer orientation. Skills like teamwork, customer orientation, and communication are increasingly recognized as important for employment. For educational institutions, these insights provide a roadmap for curriculum development, ensuring that graduates are well-equipped to meet industry demands. For future research, a deeper study on the evolving demands of the electronics industry in the region, particularly in response to technological advancements and market trends. A curriculum evaluation can also be done further to understand the alignment of industry demands and the curriculum. Moreover, further examination into effective strategies for integrating soft skills development into educational programs would be beneficial, aiming to equip students with technical proficiency and the interpersonal and problem-solving abilities essential for success in the workplace.

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7.0 Conflict of Interests

The author declares no conflict of interest.

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Metacognitive Awareness and Research Skills Among Senior High School Students

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Abstract. The Senior high school curriculum adepts research as a vital part of 21st-century skills, knowing that it is highly regarded as part of completing the chosen track. The metacognition of students might influence the research process and vice versa. Thus, this study aimed to identify the level of metacognitive awareness and research skills and the degree of relationship between these two variables. The study used a simple random technique with a proportional allocation method to have two hundred one (201) grade 12 STEM students from four clusters of senior high schools. The metacognitive awareness was measured using a 52-item adopted research instrument, and research skills were measured using a 38-item adopted research skills instrument. The data-gathering instruments were subjected to face and content validation by a panel of experts and reliability testing. The correlational research design was employed, and the statistical tools used in descriptive data analyses were average mean and composite mean. The Pearson r was used as an inferential statistical tool to determine the significant relationships among the levels of the variables of the study. Inferential tests were set at a 5% alpha level of significance. The study revealed a high level of metacognitive awareness and a high level of research skills among the respondents, and there is a strong positive significant relationship between the study variables.

Keywords: Knowledge about cognition; Metacognition; Regulation of cognition; Research skills.

1.0 Introduction

In the K–12 curriculum in the Philippines, research courses are available as applied track subjects in the Senior High School (SHS) curriculum. Both Grade 11 and Grade 12 levels are available in these courses. Inquiries, Investigations, and Immersion (III), Practical Research 1 (PR1), and Practical Research 2 (PR2) are some of these subjects. The SHS curriculum is based on research and inclines research. Research skills are now essential regardless of a person's line of work or expertise. Thus, developing them as fundamental competencies while still in school is critical. While working on research papers, one can also consciously hone one's research skills. Conducting research at the academic level is a crucial step in the learning process for students. Research is different from routinely applying already known results since it is the pursuit of new knowledge. Research aims to further human knowledge by finding, developing, or producing previously undiscovered things. The Department of Education, via the R.A. 10533, the Enhanced Basic Education Curriculum, highlights the importance of writing as a requirement rather than just an option for academic success in this highly competitive global information age.

On the other hand, Rahman, M. (2019) stated profusely that students cannot thrive in the real world by relying solely on knowledge. For students to succeed in the modern world, they must acquire 21st-century abilities, including creativity, innovation, problem-solving, metacognition, and communication. A basic cognitive process

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of humans is the ability to solve problems. In any circumstance where students cannot, difficulties arise when one is unsure how to finish a task.

Furthermore, One skill that a person needs to develop is researching to learn new information and insights. Research is a deliberate examination concerning the investigation of materials and sources to build up actualities and arrive at new resolutions. The conduct of research is as vital to education as it is to other fields or sectors. Hence, it is essential to be good or at least be able to make or conduct research studies. Comprehending how metacognitive awareness and research skills relate to one another is crucial to correlate the two. Giving individuals the information and skill to control thinking can help them improve their learning outcomes. This is known as metacognitive awareness. Moreover, research abilities include the capacity to successfully collect, evaluate, and interpret data to generate significant outcomes. Understanding how metacognition might influence the research process and vice versa is necessary to establish a correlation between metacognitive awareness and research skills. Individuals can enhance how they conduct research by knowing how metacognitive awareness and research abilities interact, producing more thorough and insightful results.

As a result, the primary gap in the research on metacognitive awareness and research skills among senior high school STEM students is the lack of comprehensive studies focused on the correlation between metacognitive awareness and research skills within this demographic. Understanding the distinctive characteristics of this group, their cognitive development and the challenges they encounter in developing research skills can provide valuable insights into how metacognitive awareness can be harnessed to enhance their research capabilities. Therefore, the primary gap lies in the need for targeted research that directly examines the relationship between metacognitive awareness and research skills among senior high school students to inform effective educational strategies tailored to this demographic. The current study attempts to collect empirical data on the metacognitive awareness of senior high school students engaged in three research subjects and their connection to the student's research abilities. The goal of this study is to meaningfully add to the body of current knowledge and offer insights that can enhance practice and policy in the local setting by conducting a thorough examination of the degree and correlation between research skills and metacognitive awareness within the specific framework of Schools Division Office of Las Piñas (SDO-LP), this study adds to the body of knowledge that will support future research endeavors. It fosters a culture of continuous learning and improvement in the field of teaching and learning—moreover, in the creation of program that will better prepare the study's recipient.

2.0 Methodology

2.1 Research Design

The study utilized the correlational research design. Objective measures are the main emphasis of quantitative research approaches using statistical analysis or the collection of numerical data. Many techniques are used to collect data, including surveys and questionnaires (Creswell, 2009). It is also possible to interpret historical statistical data in quantitative research using several methods. This method is based on obtaining statistical information to extrapolate it to other populations and provide details on a specific event. This method can efficiently evaluate the relationship between variables; it is ideally suited for this kind of research. The study aimed to ascertain, from the viewpoints of senior high school students, the relationship between metacognitive awareness and research skills. The quantitative research design—more especially, the quantitative-correlational method—is noteworthy and suitable for the thesis since it offers a strong framework for methodically investigating, evaluating, and ascertaining the connection between senior high school students' research skills and metacognitive awareness in an impartial, repeatable, and systematic way. The approach is consistent with the empirical and data-driven character of educational research. It also guarantees that the thesis's conclusions are based on measurable data, which improves their validity, reliability, and suitability for wider educational contexts and policies concerning senior high school students' research skills and metacognitive awareness.

2.2 Research Locale

The study was carried out in the Schools Division of Las Piñas City. Four Senior high schools offering the Science, Technology, Engineering, and Mathematics Strand were included. The schools were categorized as clusters 1, 2, 3, and 4.

2.3 Research Participants

The total population for this study consists of 419 STEM students, of which 201 formed part of the sample size with a 5% margin of error and a 95% confidence level. The sample size per school was obtained using the proportional allocation method, which yielded 34 STEM respondents from the first SHS cluster, 38 from the second cluster, 72 from the third cluster, and 57 from the fourth cluster.

2.4 Research Instrument

This study used two adopted research instruments with permission from its authors, distinct components, and scales. The structured research instrument makes it easier to gather data on demographics, metacognitive awareness levels, and research skills in an organized manner. The research instruments were adopted from Schraw and Dennison's (1994) Metacognitive Awareness Scale Response, Terlecki & McMahon (2018) for the Likert scale, and Lacson, E. E., & Dejos, E. A. (2022a) for Research Skills.

2.5 Data Gathering Procedure

This study used specific steps with developed and validated structured questionnaires as the first step in the data collection. The questionnaire includes all relevant data and is easy for responders to understand. After the questionnaire was developed, three experts validated the research instrument to ensure it met the research goals. The reliability and applicability of the questionnaire were confirmed by a pilot test on a small sample. Approval from the Schools Division Superintendent was sought. The research was conducted within the designated schools with permission from the school administration and educational authorities. Participants in the study were identified and listed as students from the schools. The study's goal and ethical implications were explained to these identified respondents, and their informed consent was obtained with adherence to the Data Privacy Act. Data collection and analysis steps are designed to guarantee the integrity of the study results. Respondents received the survey using an online format. The data collection process was closely watched. Respondents were reminded and encouraged to finish the questionnaires through follow-up correspondence. Data was encoded onto the Statistical Package for Science (SPSS) software. To the goals and hypotheses of the research, statistical techniques were used for data analysis, and the final product, a report, was prepared according to institutional and research norms.

2.6 Ethical Considerations

This research study followed ethical guidelines. Participation in this research is completely voluntary, and participants were given pertinent information to make an "informed" consent to participate. Informed consent was secured, the researcher obtained a participant's permission before interacting with the subject, and the researcher fully explained to the participants the nature and dynamics of the survey, including its possible risks. The study guarantees the privacy and confidentiality of participants' information and responses. The exclusion criteria consist of participants who declined consent to be part of the study. The withdrawal criterion included the participants who had participated in the study and who, at any time during the study implementation and before its conclusion, decided to withdraw or discontinue his/her participation for whatever reason. In such case/s of withdrawal, the participant remains anonymous, and the withdrawal will not be taken against or negatively affect him/her. Upon approval of the study, written consent was sought primarily from the officials of the division of Las Pinas where the study was conducted.

3.0 Results and Discussion

Table 1 shows the mean responses of respondents on knowledge about cognition: 3.40, with a descriptive rating of "I do this always" and a verbal interpretation of "Consistently engage in knowledge about cognition." It clearly showed that the learner must have the necessary factual knowledge before processing or applying critical thinking to the subject. This includes knowing about what or what and understanding one's skills, intellectual resources, and learning capacities. Hassan et al. (2022) state that education today focuses on the student rather than the teacher, creating a distorted situation and respecting each student's ability, aptitude, and interest. While learning, each student should consider their areas of strength and weakness. It implies that knowing what to study and the facts about the subject matter will help a metacognitively aware student manage his learning time. That is why learning preparation moves forward based on the learner's perception of his capacities, which facilitates goal achievement for individuals with metacognitive awareness. Furthermore, the level of knowledge about cognition among students shows that they consistently know what strategies to use and the set conditions that will best

work during the learning process. Moreover, being metacognitively aware of building conceptual knowledge (content knowledge) and declarative, procedural, and conditional knowledge is a necessary part of metacognition.

Table 1. Mean responses of students on the knowledge about cognition

	Indicators	Mean	Descriptive Rating	Interpretation
1.	I understand my intellectual strengths and weaknesses.	3.48	I Do this Always	Consistently engage
2.	I know what kind of information is important to learn.	3.55	I Do this Always	Consistently engage
3.	I am good at organizing information	3.21	I Do this Frequently	Regularly engage
4.	I know what the teacher expects me to learn.	3.23	I Do this Frequently	Regularly engage
5.	I am good at remembering information.	2.98	I Do this Frequently	Regularly engage
6.	I have control over how well I learn.	3.10	I Do this Frequently	Regularly engage
7.	I am a good judge of how well I understand something.	3.32	I Do this Always	Consistently engage
8.	I learn more when I am interested in the topic.	3.85	I Do this Always	Consistently engage
9.	I try to use strategies that have worked in the past	3.66	I Do this Always	Consistently engage
10.	I have a specific purpose for each strategy I use.	3.49	I Do this Always	Consistently engage
11.	I am aware of what strategies I use when I study.	3.46	I Do this Always	Consistently engage
12.	I find myself using helpful learning strategies automatically.	3.41	I Do this Always	Consistently engage
13.	I learn best when I know something about the topic.	3.80	I Do this Always	Consistently engage
14.	I use different learning strategies depending on the situation.	3.40	I Do this Always	Consistently engage
15.	I can motivate myself to learn when I need to	3.25	I Do this Frequently	Regularly engage
16.	I use my intellectual strengths to compensate for my weaknesses.	3.32	I Do this Always	Consistently engage
17.	I know when each strategy I use will be most effective.	3.28	I Do this Always	Consistently engage
	Composite Mean	**3.40**	**I Do this Always**	**Consistently engage**

The results in Table 2 present the mean responses of respondents on the regulation of cognition, which is 3.35, has a descriptive rating of I do this always and has a verbal interpretation of "Consistently engage in regulation of cognition." Students can track the efficacy of their strategies and understand how to implement them. When students regulate their cognition, they continuously refine and keep an eye on their learning methods while developing self-awareness. Metacognition is the capacity of learners to plan suitable strategies for solving problems, evaluate implications and outcomes, and modify their approach as needed, considering prior knowledge. By choosing the most suitable cognitive tool for a task, metacognition helps students complete it successfully (Abdelrahman, 2020). It implies that metacognitive awareness is a critical component of learning success and a useful tool for assessing academic achievement. Moreover, the level of regulation of cognition relates to students' understanding of how to apply tactics and their capacity to assess how well their techniques work. Students who can regulate their learning always create and evaluate their learning plans according to their growing self-awareness.

Table 2. Mean responses of students on the regulation of cognition

	Indicators	Mean	Descriptive Rating	Interpretation
1.	I pace myself while learning in order to have enough time.	3.29	I Do this Always	Consistently engage
2.	I think about what I need to learn before I begin a task.	3.40	I Do this Always	Consistently engage
3.	I set specific goals before I begin a task.	3.33	I Do this Always	Consistently engage
4.	I ask myself questions about the material before I begin.	3.01	I Do this Frequently	Regularly engage
5.	I think of several ways to solve a problem and choose the best one.	3.39	I Do this Always	Consistently engage
6.	I read instructions carefully before I begin a task.	3.53	I Do this Always	Consistently engage
7.	I organize my time to accomplish my goals best.	3.29	I Do this Always	Consistently engage
8.	I ask myself periodically if I am meeting my goals.	3.13	I Do this Frequently	Regularly engage
9.	I consider several alternatives to a problem before I answer.	3.33	I Do this Always	Consistently engage
10.	I ask myself if I have considered all options when solving a problem.	3.31	I Do this Always	Consistently engage
11.	I periodically review to help me understand important relationships.	3.24	I Do this Frequently	Regularly engage
12.	I find myself analyzing the usefulness of strategies while I study.	3.24	I Do this Frequently	Regularly engage
13.	I find myself pausing regularly to check my comprehension	3.34	I Do this Always	Consistently engage
14.	I ask myself questions about how well I am doing while I am learning something new	3.31	I Do this Always	Consistently engage
15.	I slow down when I encounter important information.	3.57	I Do this Always	Consistently engage
16.	I consciously focus my attention on important information.	3.59	I Do this Always	Consistently engage
17.	I focus on the meaning and significance of new information.	3.54	I Do this Always	Consistently engage
18.	I create my examples to make information more meaningful.	3.39	I Do this Always	Consistently engage
19.	I draw pictures or diagrams to help me understand while learning.	3.03	I Do this Frequently	Regularly engage
20.	I try to translate new information into my own words.	3.45	I Do this Always	Consistently engage
21.	I use the organizational structure of the text to help me learn.	3.27	I Do this Frequently	Regularly engage
22.	I ask myself if what I am reading relates to what I already know.	3.37	I Do this Always	Consistently engage

23.	I try to break studying down into smaller steps.	3.32	I Do this Always	Consistently engage
24.	I focus on overall meaning rather than specifics.	3.22	I Do this Frequently	Regularly engage
25.	I ask others for help when I do not understand something.	3.52	I Do this Always	Consistently engage
26.	I change strategies when I fail to understand.	3.37	I Do this Always	Consistently engage
27.	I re-evaluate my assumptions when I get confused.	3.45	I Do this Always	Consistently engage
28.	I stop and go back over new information that is not clear.	3.61	I Do this Always	Consistently engage
29.	I stop and reread when I get confused.	3.72	I Do this Always	Consistently engage
30.	I know how well I did once I finish a test	3.18	I Do this Frequently	Regularly engage
31.	I asked myself if there was an easier way to do things after I finished a task.	3.46	I Do this Always	Consistently engage
32.	I summarize what I have learned after I finish.	3.08	I Do this Frequently	Regularly engage
33.	I ask myself how well I accomplish my goals once I am finished.	3.24	I Do this Frequently	Regularly engage
34.	I ask myself if I have considered all options after I solve a problem.	3.34	I Do this Always	Consistently engage
35.	I ask myself if I learned as much as possible once I finish a task.	3.37	I Do this Always	Consistently engage
	Composite Mean	**3.35**	**I Do this Always**	**Consistently engage**

As shown in Table 3, the mean responses of students on research methods and data analysis is 3.41, with a descriptive rating of Certainly true and a verbal interpretation of "To a great extent." It is noted that students' exposure to three research subjects in senior high school had a collaborative impact on their experiences on applying research methods and how to conceptualize data analysis. The results show that students are demonstrating a high level of intellectual honesty and integrity. Regarding their research abilities, they consider possible respondents when coming up with a topic and are well aware of copyright and plagiarism laws when gathering information (Ortega et al.,2021). Equally, Awodoyin et al. (2020), graduates possess outstanding general research skills, such as finding information, following procedures, and communicating research findings. They were found to have moderate evaluation and problem-solving skills and statistical or mathematical ability. This implies that a great deal of intellectual honesty has been followed and that improvement in the use of statistical applications may be enhanced.

Table 3. Mean responses of students on research methods and data analysis

	Indicators	**Mean**	**Descriptive Rating**	**Interpretation**
1.	I can elaborate on key variables in my research topic.	3.33	Certainly True	To a great extent
2.	I follow ethical standards in writing related literature	3.64	Certainly True	To a great extent
3.	I can identify and access appropriate bibliographical resources, archives, and other sources of relevant information (* including web-based resources, primary sources, and repositories)	3.55	Certainly True	To a great extent
4.	I can assess sources' reliability, reputation, currency, authority, and relevance.	3.50	Certainly True	To a great extent
5.	I can evaluate the accuracy of the content by reading other sources mentioned by the writer.	3.49	Certainly True	To a great extent
6.	When searching for information, I can arrange each item systematically.	3.35	Certainly True	To a great extent
7.	I can write my references in any citation and referencing format or style.	3.29	Certainly True	To a great extent
8.	I can formulate a conceptual framework for my research.	3.29	Certainly True	To a great extent
9.	I can plan and design the research process of a research topic.	3.40	Certainly True	To a great extent
10.	I can determine the appropriate research design or method for my research.	3.36	Certainly True	To a great extent
11.	I can justify the principles and experimental techniques used in my research.	3.40	Certainly True	To a great extent
12.	I can select or develop a research instrument to gather the necessary data for my research.	3.44	Certainly True	To a great extent
13.	I understand and apply the relevant codes of conduct and guidelines for the ethical conduct of research; I seek advice from my supervisor.	3.55	Certainly True	To a great extent
14.	I have a basic understanding of legal requirements surrounding research, e.g., the Data Protection Act, Freedom of Information Act.	3.52	Certainly True	To a great extent
15.	I can determine which statistical tool or method of analysis to use for my research	3.27	Certainly True	To a great extent
16.	I can perform common statistical tools in any statistical applications like MS Excel, SPSS, Minitab, or other apps.	3.21	Generally True	To some extent
17.	I can analyze and interpret the results of my statistical treatment or method analysis	3.37	Certainly True	To a great extent
18.	I can evaluate and systematically organize the data I have gathered.	3.44	Certainly True	To a great extent
	Composite Mean	**3.41**	**Certainly True**	**To a great extent**

Table 4 shows the mean responses of students on writing and reporting of results is 3.35, has a descriptive rating of certainly true, and has a verbal interpretation of "to a great extent". While it is evident that students are aware of how to write outputs and report results, as shown in the table, improvements can be made in constructing a thesis statement, as it is a crucial part of writing a research paper. Contrary to the study results stated by Pangket et al. (2023), they implied that graduate students have difficulty acquiring the writing and reporting skills required for research reports. These problems make it challenging to complete these successfully, in addition to the challenges usually present during the research reporting phase. It implies that having been exposed to three research subjects in senior high school; STEM students developed their research abilities with resources and assistance acquired from research mentors. Furthermore, the level of writing and reporting of results yields dominant among STEM students may be attributable to an integrating factor not only within the range of the research process but to other academies as well.

Table 4. Mean responses of students on writing and reporting of results

	Indicators	Mean	Descriptive Rating	Interpretation
1.	I have excellent knowledge of the language(s) appropriate for research, including technical language	3.34	Certainly True	To a great extent
2.	I can understand, interpret, create, and communicate appropriately within an academic context	3.43	Certainly True	To a great extent
3.	I can prepare grammatically and syntactically correct content for presentations.	3.37	Certainly True	To a great extent
4.	I can communicate research results.	3.35	Certainly True	To a great extent
5.	I can construct my thesis statement.	3.28	Certainly True	To a great extent
6.	I can organize my thoughts and ideas clearly and prepare a manuscript for my research.	3.31	Certainly True	To a great extent
7.	I can construct my conclusion based on the information gathered.	3.42	Certainly True	To a great extent
8.	I can communicate orally the results of my research process.	3.30	Certainly True	To a great extent
	Composite Mean	**3.35**	**Certainly True**	**To a great extent**

Table 5 presents the mean responses of students on problem conceptualization is 3.46, has a descriptive rating of certainly true, and has a verbal interpretation of "To a great extent." The process of turning concepts into an operationalizable research endeavor as problem conceptualization has been evident among STEM senior high school students. It includes outlining the study, figuring out the main ideas, and creating an agenda and research design attributable to having a tantamount concept and application in research. This result has similar connotations to the work of Casanova (2021); the research findings indicate that graduate students have exceptional performance in research, namely in the areas of developing issue statements, hypotheses, study importance, and word definitions. They have a positive outlook on the value and limitations of research. They have negative concerns regarding research. It implies that the research adviser was consulted frequently, students and instructors with expertise sought assistance, technology was used, and material recognition was given. The attitudes of students and the challenges they faced were predictive of their research performance. The student's positive attitude in the field and their minor challenges may influence their research performance.

Table 5. Mean responses of students on problem conceptualization

	Indicators	Mean	Descriptive Rating	Interpretation
1.	I can indicate the scope and delimitation of my research.	3.52	Certainly True	To a great extent
2.	If confronted with a question/problem, I can see it as an opportunity to do research.	3.34	Certainly True	To a great extent
3.	I can identify and ask useful, challenging questions. I am always curious.	3.42	Certainly True	To a great extent
4.	Based on related literature and other sources, I can formulate my research topic/problem.	3.39	Certainly True	To a great extent
5.	I can write a research title.	3.43	Certainly True	To a great extent
6.	I can create mind or concept mapping of my research topic/problem.	3.36	Certainly True	To a great extent
7.	I can generate research questions based on the topic/problem.	3.45	Certainly True	To a great extent
8.	I can justify the reasons for conducting the research.	3.46	Certainly True	To a great extent
9.	I can gather information about my research topic through various means (e.g., electronic media, images, audio and video).	3.57	Certainly True	To a great extent
10.	I can use the main ideas from the information researched to support my topic.	3.50	Certainly True	To a great extent
11.	I can combine the main ideas from one source or more to form a new idea.	3.55	Certainly True	To a great extent
12.	I can observe and collect the necessary data that can support my problem.	3.53	Certainly True	To a great extent
	Composite Mean	**3.46**	**Certainly True**	**To a great extent**

As shown in Table 6, a Pearson correlation coefficient was computed to assess the relationship between metacognitive awareness and research skills. The analysis revealed a strong positive correlation between the two variables, r(199) = .68, p = .001. Moreover, with a p-value of < .001 compared to a significance level of 0.05, strong evidence points to the statistical significance of the observed results. It is very unlikely that such outcomes would be observed by pure chance; a lower p-value indicates stronger evidence against the null hypothesis, thereby rejecting the same and accepting the significant correlation between metacognitive awareness and research skills among senior high school STEM students.

Table 6. Analysis of the relationship between metacognitive awareness and research skills

		Metacognitive Awareness	Research Skills
Metacognitive Awareness	Pearson Correlation	1	.677**
	Sig. (2-tailed)		.000
	N	201	201
Research Skills	Pearson Correlation	.677**	1
	Sig. (2-tailed)	.000	
	N	201	201

**. Correlation is significant at the 0.01 level (2-tailed).

The study of Güner and Erbay's (2021) findings shows how metacognitive skills and problem-solving are related and how they improve problem-solving outcomes. Learners who demonstrated the capacity to apply metacognitive skills gave precise answers to the problems, and they also showed that they could recognize the objectives and requirements of the challenge, use a range of techniques to solve it and double-check their answers. However, Iffat (2020) revealed that ineffective writing skills and a lack of interest in the research process are among the main reasons students cannot produce authentic work and well-written writing. Other intrinsic or external factors that affect students' potential for research include study habits, time constraints, being overburdened with other subjects, and, to some extent, a lack of understanding of research ethics. The study concludes that students' motivation would increase if they were provided with resources to help them write strong research proposals and information on research ethics. Nevertheless, the level of research skills, particularly in the research methods and data analysis, writing and reporting of results, and problem conceptualization among STEM senior high school students reveals a remarkably high level of research skills. Furthermore, Diocos (2022) stated that graduate students now have various skills necessary for carrying out research. Graduate students are skilled at effectively searching for the required information, expertise, and data. They are adept at figuring out the underlying source of an issue and developing a practical fix. They can write and communicate more effectively, efficiently, and clearly in an understandable manner since these skills are required to produce papers appropriate for publishing in respectable journals and presentations in national and international forums. They can express concepts eloquently in writing and speech and have strong mental articulation skills.

4.0 Conclusion

The responders' high level of metacognitive awareness reflects their capacity to understand and manage their own thought and learning processes. The findings revealed that the respondents have high research skills corresponding to research methods and data analysis, writing and reporting results, and problem conceptualization. The respondent's high level of metacognitive awareness and high level of research skills have a strong positive degree of correlation. Thus, future endeavors are being offered in this study; the teachers may use the metacognitive awareness inventory to determine the level of knowledge about cognition and regulation of cognition of students, and through it, an adjustment can be made to supplement their learning process. The teachers may use the research skills inventory to gauge the readiness of students who will conduct actual research in their corresponding strand and may track their progress or needs during the research process—sustaining the current and relevant use of metacognition among students through its scope and content. Sustaining exemplar practice to ensure research skills are developed among students. A similar study may be conducted on a larger group of subjects to determine if the same findings will be established. A similar study may be conducted on different senior high school strands to determine findings on this profile.

5.0 Contributions of Authors

The author has reviewed the content and approved the final work.

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7.0 Conflict of Interests

The author declares no conflict of interest about the publication of this paper.

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A Content Analysis on TripAdvisor Reviews of Customer Satisfaction in a Buffet Restaurant

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Abstract. This study aimed to assess customer satisfaction through TripAdvisor reviews of a buffet restaurant in Pasay City, focusing on positive and negative feedback from 2022-2023 to enhance future dining experiences and pinpoint areas for improvement. Employing a qualitative, descriptive method, the study analyzed 660 reviews, categorizing them by food quality, service quality, price, and location. The findings indicated a predominance of positive feedback while highlighting specific areas needing improvement.

Keywords: Customer experience; Customer satisfaction; Restaurant industry; TripAdvisor.

1.0 Introduction

The restaurant industry is one of the most in-demand businesses in today's global economy. Fast food chains, casual dining, and buffet restaurants are registered food service establishments serving customers a wide range of food and beverages. In today's fast-paced economic environment, the hospitality sector, particularly the restaurant industry, is going through significant shifts due to rivalry (Rhou & Singal, 2020). This competition would require the managers and owners of restaurant businesses to make strategic offerings that customers would most likely appreciate in order to strengthen their business and boost customer satisfaction, which is one crucial criterion that a restaurant industry must meet, hence retaining customers. Additionally, the sense of fulfilment of the experience depends on the adoration and food preferences of the patrons, particularly the food-loving Filipinos.

Like any other country, the Philippines' food business has significantly prospered. Noting that Filipinos enjoy eating a lot, entrepreneurs started restaurant businesses nationwide. For example, the birth of many buffet-style food service establishments became popular because they provided a large selection of dishes and catered to Filipino tastes. For example, a buffet service offers a self-service dining experience in which guests can choose from a diverse range of dishes being served. This type of dining arrangement is popular in various contexts, from casual get-togethers to more formal and sophisticated events. Many Filipino families enjoy celebrating special occasions like birthdays or a simple get-together. Moreover, the allure of such establishments is heightened by the enticing promos they frequently offer, such as complimentary birthday or graduation offers, which draw Filipino customers to dine and experience this kind of service.

One popular buffet style restaurant in the Philippines is inspired by a French artist's studio, Spiral, the flagship restaurant of the Sofitel Manila, features 21 dining ateliers. Every palate can find something they enjoy, from the cheese area at L'Epicerie to the many cuisines offered, including Indian, Japanese, and Filipino. Savor salads, pasta

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and French dishes, Asian cuisine, and sweets like gelato, pastries, and chocolate fountain desserts. Spiral also offers complimentary tea and coffee. However guests may enhance their experience by choosing their preferred beverages or adding free-flowing alcoholic drinks while enjoying the vast array of food choices (Spiral Manila, n.d.). Customers particulary Filipinos are a bit cautious of the foods that they eat, some would prefer one over the other and some is just enough as it is but restaurant industry should adjust to meet the expectations of their patrons and satisfy their dining experience.

To measure the degree to which a business satisfies or exceeds its clients' expectations with its goods and services is called customer satisfaction (Predilla & Junio, 2017). Providing quality customer service is essential for companies since it is the first point of contact between them and their clients. Customers are vital to any business, and their opinions significantly impact the company's success. Customers' opinions are essential components that drive the success and expansion of any given firm (Marquez et al., 2019). In the restaurant business, customers consider the level of service and the standards and quality of the food offerings. A study conducted by Adriatico et al., 2022 concluded that clients who are pleased with the caliber of the products and services are more inclined to suggest and support a restaurant. Moreover, a study revealed that satisfied clients are more likely to make subsequent purchases and significantly influence customer loyalty (Rabo & Ang, n.d.). Evaluating the quality of services is essential since it helps them to strengthen and enhance their business, which eventually results in higher revenue (Omar et al., 2016).

In the past, plenty of research has been done on customer satisfaction, but more needs to be done on customer satisfaction in the buffet restaurant industry. The research gap emphasized the necessity of a more thorough investigation of the constantly changing relationship between shifts in customer satisfaction and several internal and external factors affecting this industry. Neglecting plausible impacts such as shifts in management, menu options, marketing tactics, and outside environmental variables increases the likelihood of missing out on significant knowledge about what influences pivots in consumer satisfaction. By filling this gap, managers and other stakeholders seeking the best possible dining experience at Buffet restaurant could make more informed decisions by having a more sophisticated awareness of the nuances underlying customer satisfaction dynamics.

2.0 Methodology

2.1 Research Design

The study used a qualitative, descriptive research methodology mainly because the current study aims to describe and analyze the factors associated with customer satisfaction. Moreover, the data available is purely observational, and the variables cannot be manipulated or controlled. Also, the data needed to gauge customer satisfaction was accessible online in the form of Tripadvisor guest reviews.

2.2 Research Participants

The participants in the research were restaurant guests who visited between 2022 and 2023 and submitted their Tripadvisor reviews regardless of whether they were positive or negative. The researcher based the data collection on a reliable travel review website, Tripadvisor, to make the research more legitimate and trustworthy.

2.3 Research Instrument

The researcher intended to use evaluations and ratings from 2022 to 2023 obtained from the widely recognized travel website Tripadvisor. Regarding experience ratings, a 5-star rating denoted excellence—the maximum degree of quality or satisfaction. A 4-star rating came second, indicating a very good experience. A three-star rating indicated an average experience—neither excellent nor very terrible. A 2-star rating denoted a poor experience. Lastly, a rating of one star denoted a terrible experience and the lowest possible degree of quality or satisfaction.

2.4 Data Gathering Procedure

The researcher identified fixed themes on Tripadvisor, including food, service, atmosphere, value for money, and overall dining experience. By identifying these key elements, the study sought to offer a deeper understanding of the factors that positively or negatively impacted customer satisfaction. To obtain comprehensive information from participants regarding their dining experiences and satisfaction, browsing reviews on online resources, specifically Tripadvisor, was one of the most crucial things to prepare to begin the study. By looking through these reviews, the researcher gained further insight into the guests' views and opinions deemed particularly

noteworthy. The reviews were compiled and systematically organized in a spreadsheet based on their content. First, reviews about Buffet restaurant in Pasay City from 2022 to 2023 were collected. After reading through the evaluations, the researcher immersed more profoundly in the material to become familiar with the concepts and feelings that customers had stated. The reviews are then categorized using a coding system based on content associated with customer satisfaction, such as food, service, price, and location. The coded data were next subjected to content analysis, which was used to find patterns and trends. The continuous process of content refinement resulted in a comprehensive understanding of the dynamics of customer satisfaction. By going through this procedure, the research gathered the real voices and experiences of the participants, offering insightful information about Buffet restaurant's customer satisfaction. The limitations of this study are the lack of control over the sample as the reviews are already available online, the year of reviews collected was from 2022 to 2023 only, and the study's data is only collected on the Tripadvisor website alone.

2.5 Ethical Considerations

This research study followed ethical guidelines. The participants from TripAdvisor remained anonymous.

3.0 Results and Discussion

In the pursuit of understanding customer experiences and satisfaction levels, this study concentrated on analyzing ratings provided by guests who visited Buffet restaurant in Pasay City from 2022 to 2023. Customer feedback served as a valuable lens for evaluating various aspects of the dining establishment, shedding light on food quality, service quality, price, and location.

Table 1. Distribution of reviews

Year	Number of Reviews	Percentage
2022	57	8.60
2023	603	91.4

A total of 660 participants posted reviews of their experiences at Buffet restaurant on TripAdvisor throughout the years 2022 and 2023. In 2022, 57 guests posted their reviews, constituting 8.6% of the total reviews collected, but by 2023, the number had climbed dramatically to 603, or 91.4% of the total reviews. This phenomenal increase in involvement highlights the establishment's persistent allure and the increasing inclination of customers who participated in online discussions, thus increasing the amount of data examined and assessed. Moreover, one factor contributing to the increased number of reviews in 2023 is the restaurant industry's return to normal operations after the pandemic began in 2020. During the pandemic, the government enforced strict health guidelines to protect public health, but by 2023, customers could dine out and enjoy a pre-pandemic lifestyle more freely. In contrast, in 2022, people were still cautious about the risk of contracting the disease.

During the analysis, which covered the years 2022 and 2023, the researchers saw that Spiral Buffet consistently received the highest rating possible—"Excellent." Nevertheless, besides these commendations, the researcher noted that some customers gave the restaurant poor reviews. During the analysis of Spiral Buffet's performance in 2022, the predominant rating trend was "Excellent," indicating high guest satisfaction. However, this positive trend was offset by critical reviews that pointed out flaws within the establishment. Conversely, in 2023, while "Excellent" ratings continued to dominate, there was a noticeable decrease in poor to terrible reviews. This implied that Spiral Buffet made a concerted effort to address earlier issues, which enhanced overall guest satisfaction. These findings demonstrated Spiral Buffet's dedication to constant growth and refining the dining experience for its customers. According to (Ivkov et al., 2016), innovations helped businesses remain afloat in the competitive environment. In the highly competitive and ever-evolving restaurant industry, management's proactive approach and ability to personalize an experience was significant.

Table 2. 2022 reviews

Rating	Number of Reviews
Excellent	38
Very Good	6
Average	2
Poor	6
Terrible	5
Total	**57**

In 2022, Spiral Restaurant garnered feedback from 57 reviewers. Among them, 38 expressed their experience as "Excellent," indicating high satisfaction. Additionally, six reviews classified their experience as "Very Good." However, two reviews were marked as "Average," 6 as "Poor," and 5 as "Terrible," suggesting varying degrees of dissatisfaction with the dining experience.

Table 3. 2023 reviews

Rating	Number of Reviews
Excellent	530
Very Good	53
Average	13
Poor	5
Terrible	2
Total	**603**

In 2023, Spiral Restaurant continued to attract a significant amount of feedback, with a total of 603 reviews received throughout the year. Impressively, most of these reviews, specifically 530, rated the dining experience as "Excellent," Additionally, 53 reviews categorized the experience as "Very Good," However, there were 13 reviews marked as "Average," Moreover, a small number of reviews, comprising five labeled as "Poor" and two as "Terrible,"

Theme 1: Food

5 Star Rating

"*The buffet experience exceeded expectations with impeccable service and a diverse array of delicious dishes. The staff's attentiveness and the flavorful food created a delightful dining experience. Highly recommended!*" (Review, 2023)

"*So many different stations of food including Filipino, Indian, Chinese, salads, Japanese, cheese room, juices, bread, waffles, Filipino sweets, and I'm sure I have forgotten a few. Choices continue to change and are always fresh.*" (Review, 2023)

3 Star Rating:

"*I have been to Spiral several times in the past, and I have to say I found the food mediocre this time. It was not as delicious as before. I found other buffets in Manila to be more delicious.*" (Review, 2022)

2 Star Rating:

"*So many items are out of stock or coming soon. Most foods were dry and overcooked.*" (Review, 2022)

Analysis of the reviews indicated that most visitors had expressed satisfaction with the food offerings at Spiral Manila. However, a subset of reviews has noted a perceived decline in food quality compared to previous experiences. These insights presented valuable feedback for management to consider when identifying areas for enhancement. By acknowledging positive and critical feedback, the management can strategize improvements to maintain and elevate overall guest satisfaction levels. The restaurant needs to concentrate on consistently serving cuisine of the highest quality to every one of its customers. By continuously providing an exceptional dining experience, the restaurant could build a solid reputation and cultivate client loyalty, all of which will eventually lead to long-term success.

According to Vaclavik and Christian (2008), the flavor of the food plays a significant role as it directly influences enjoyment and overall satisfaction with the dish. Moreover, food's appearance was greatly influenced by its presentation, with visually appealing dishes making food more alluring. Lee and Whaley supported this in 2019. Their study revealed that food taste was essential to consumer satisfaction during their dining experience. Still, before customers taste the food, food presentation is generally the first to stimulate consumers' senses.

Furthermore, customers of buffet restaurants prefer a menu with a wide range of options, which supported Oyewole's (2013) research, which shows that customers of buffet restaurants seek a menu with an extensive range of choices. Customers had expectations about food quality. Every food business creates and implements an efficient quality control program to satisfy this consumer need. Reduced product sales and profitability might

result from a failure to meet consumer demand. A significant product failure could completely fail a company (Hurst et al., 2010). Moreover, a study conducted by Al-Tit in 2015 showed that food quality significantly impacted customer satisfaction. Their analysis showed that it is one of the most essential variables contributing to increased customer satisfaction.

Theme 2: Service

5 Star Rating
"*Staff was amiable, accommodating and attended to our every request quickly and precisely.*" (Review, 2023)

"*Very attentive to our needs. Perfect example of excellent customer service. Will return*" (Review, 2023)

1 Star Rating
"*Very disappointed on how they have handled the unfortunate event that happened to their restaurant that resulted to the cancellation of the Lunch Buffet w/c has shown how they lack the sense of Customer Service & operational strategy for unforeseen events like this to ensure customer satisfaction.*" (Review, 2022)

"*We were seated at a table under direct sunlight. It felt like Sauna in there. We requested to be transferred several times and were finally transferred after an hour and 40 minutes when we were all drenched in sweat. We requested the bill at 2 PM as our doctor's appointment was at 3:45 PM. Our bill was handed down to us at 3:30 PM, and only after we waited at the cashier for our bill to be processed.*" (Review, 2022)

Analysis of the reviews revealed that visitors had lauded the staff at Spiral Manila for their commendable attributes, including friendliness, accommodation, and attentiveness to customer needs. However, a subset of guests has expressed discontent regarding the restaurant's management of an unforeseen event, highlighting areas for improvement in customer service and operational strategy during such occurrences. The management must develop the confidence to deal with challenging circumstances while upholding professionalism and fairness.

According to Kotler and Keller (2016), exceptional customer service positively impacted satisfaction. Consumers' favorable opinions of a company's level of service are essential as they increase the possibility that expectations will be fulfilled, which raises customer satisfaction. A 2015 study by Al-Tit discovered a strong correlation between customer satisfaction and service quality. Additionally, good service had a favorable effect on retaining customers. Studies have indicated that enhancing the standard of service in the hospitality industry across every aspect affects customer satisfaction, customer retention, and loyalty (Rauch et al., 2015; Jeon & Jeong, 2017). It helped to improve sustainability and overall corporate performance. A 2015 Murad and Muhammad Ali study further supported this, showing a substantial correlation between service quality and customer satisfaction. Customer satisfaction positively correlates with high service quality (Chan & Castro, 2021).

Theme 3: Price

5 Star Rating
"*Moreover, the food did not disappoint. worth the price. Overall, we had such a great time in Spiral and will come back here.*" (Review, 2023)

"*I do not mind paying more for quality. I would return here again.*" (Review, 2023)

3 Star Rating
"*Prices are very high compared to other buffet meals in Manila.*" (Review, 2023)

2 Star Rating
"*The exceptionally high price paid was nowhere near the value of what we received. Appears most were there under the "coupon" crowd. Even at half price, it would be barely*" (Review, 2023)

Analysis of the reviews indicated that guests have predominantly praised the quality of food and perceived value for money. Guests have expressed satisfaction with their dining experiences, emphasizing that the food justified

the price paid and expressing intentions to return. However, some reviews highlighted concerns regarding the perceived mismatch between the high price and the value received, suggesting potential areas for improvement in aligning pricing with customer expectations.

According to Karki & Panthi (2018), price is an essential factor in consumers' decision-making when purchasing a product. Thus, for a company to succeed in the market, it is necessary to ensure that the cost of its products or services is in line with what customers are willing to pay. Pricing that aligns with customers' perceptions of value is essential for attracting new customers while keeping existing ones, which fuels expansion and profitability. Furthermore, Albari and Kartikasari (2019) provided compelling evidence that customer satisfaction increases when food prices appropriately correspond to the value consumers perceive of the products. Customers are satisfied when they believe that the cost accurately corresponds with the quality they receive. This frequently results in recurrent purchases and recommendations to others based on their perception of reasonable pricing. Perceived price fairness is one of the primary criteria for evaluating customer satisfaction in the restaurant business. In reality, before or after making a purchase, customers frequently compare several brands to understand the perceived value better and evaluate their degree of satisfaction. (Hanaysha, 2016). However, according to Abdullah et al. (2019), using various pricing techniques to boost sales and foster a sense of price fairness is feasible.

Theme 4: Location

5 Star Rating
"*We have been patrons of Spiral for years now as this restaurant is a great place for celebrating special occasions with loved ones.*" (Review, 2023)

"We enjoyed our breakfast, and we love the restaurant's ambiance. Very classy and elegant. Service is also top notch!" (Review, 2023)

3 Star Rating
"*3/5 stars because the dining room was deafening and extremely hot. Very uncomfortable place to spend 2+ hours.*" (Review, 2023)

"*Way too crowded and standing in line (over 100 guests waiting) was not what we expected for this price. We have had way better meals in the Philippines.*" (Review, 2023)

Analysis of the reviews indicated that guests of Spiral Manila depict a mixed sentiment among guests. While some patrons have expressed long-standing loyalty to the restaurant, citing it as an ideal venue for special occasions, others have raised concerns about the dining experience. Complaints include discomfort due to noise and temperature levels, dissatisfaction with overcrowding, and lengthy wait times. These reviews suggest areas for improvement in ambiance, comfort, and crowd management to enhance overall guest satisfaction.

According to Hanaysha (2016), a restaurant's physical environment, which includes both tangible and intangible elements, is mainly composed of temperature, lighting, smell, noise, mood, and music. Meanwhile, Zhong and Moon (2020) stated that a restaurant's well-kept outdoor environment would assist in drawing in new customers while retaining existing customers. According to a 2020 study by Dhyani, the significance of location in running a successful food outlet must be considered since it is critical to drawing consumers, ensuring profitability, and determining the establishment's endurance. Dhyani mentioned three essential elements of his study. The first vital elements included visibility and accessibility, with conveniently accessible places attracting more prospective clients. Second, the area's demographic makeup is significant, necessitating knowledge of the wants and preferences of the target market, including financial brackets, cultural preferences, and lifestyle trends. Last but not least, the milieu and mood of the area, including its aesthetics and neighboring attractions, significantly affect customer satisfaction and experience, encouraging returning customers, favorable evaluations, and a solid reputation for the company.

4.0 Conclusion

The study evaluated customer satisfaction reviews in online consumer feedback for Buffet restaurants in Pasay City from TripAdvisor between 2022 and 2023. The analysis of 660 reviews posted during this period reveals several significant findings, including a dramatic review increase from 57 in 2022 to 603 in 2023. This suggests that increasing numbers of customers were sharing their dining experiences online. Furthermore, this study showed that most consumers who posted their experiences online evaluated their dining experiences as excellent to very good, indicating satisfaction. The researchers discovered that quality, service, price, and location are significant factors in customer satisfaction. Positive reviews emphasized the staff's cordial behavior and the quality of the cuisine. Price and value reviews held differently, with some visitors believing that the cost was justified while others noticed an inequality. The restaurant's location and ambiance were also prominently highlighted in the reviews. Buffet restaurant may consider changes to sustain and improve customer satisfaction by giving positive and negative feedback. To guarantee that the restaurant remains among the top places to dine, proactive management and ongoing monitoring of customer feedback are essential in addressing the areas identified for improvement.

5.0 Contributions of Authors

The author did the entire study while the adviser guided the main author in finishing this study.

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7.0 Conflict of Interests

The author declares no conflicts of interest

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Statistical Test Proficiency and Data Analysis Literacy through Statistical Package for the Social Sciences (SPSS) Workshop

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Abstract. This quasi-experimental study addressed the need for practical training in statistical analysis by examining the impact of SPSS workshops on statistical test proficiency and data analysis literacy among seventy Bachelor of Secondary Education in Mathematics (BSED-Math) students. The research evaluated whether SPSS workshops could significantly enhance these critical skills. Using a pre-test and post-test one-group design, the study measured statistical proficiency with a performance test and data literacy with a researcher-developed questionnaire. The results showed significant improvements, with students advancing from limited proficiency to proficiency in statistical testing and from introductory understanding to analytical competence in data literacy. Additionally, a strong positive relationship was found between statistical test proficiency and data analysis literacy, meaning that as students improved in statistical test proficiency, their data analysis literacy also improved. These findings suggest that SPSS workshops are an effective tool for enhancing students' analytical capabilities. Future research should explore how well students retain these skills over time and assess the effectiveness of similar interventions across different academic disciplines. Additionally, investigating how SPSS training influences students' ability to apply statistical methods in real-world research could provide valuable insights into its broader applicability.

Keywords: Statistical test proficiency; Data analysis literacy; Statistical Package for Social Sciences; Workshop; Educational training.

1.0 Introduction

Proficiency in using statistical tools and skills in data interpretation is indispensable for conducting rigorous research, formulating evidence-based policies, and making informed decisions. Despite the critical role of statistical literacy, a significant gap persists in the proficiency levels of statistical test implementation and data analysis among students and professionals, particularly those outside statistics and data science. Research highlights that even with targeted pedagogical interventions, such as those implemented by Gonda et al. (2022), improvements in statistical skills can be achieved, yet challenges remain. Their study emphasizes the importance of developing statistical literacy at various educational levels. It highlights that integrating real-world research into statistics courses can significantly enhance students' abilities to critically evaluate and apply statistical information. This underscores the need for a dual approach that focuses on improving statistical skills and addresses and reshapes students' perceptions of the field to foster long-term engagement and proficiency.

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Students often encounter difficulties in understanding and applying statistical concepts in academic settings, which can impede their research capabilities and academic performance. This challenge is further compounded by the limited integration of technology-based tools in the classroom, which could otherwise enhance students' proficiency in statistical analysis. A study by Ramos et al. (2023) demonstrated that technology-based supplementary materials can significantly improve students' performance in statistics compared to traditional manual computation methods, playing a crucial role in overcoming the difficulties students face in mastering statistical concepts. Additionally, research on the effectiveness of structured lessons in teaching high school students to interpret and evaluate statistical reports has shown that a systematic approach grounded in critical thinking can significantly enhance students' statistical literacy skills (Koga, 2024).

Similarly, in professional environments, individuals may struggle with data analysis tasks, leading to suboptimal decision-making and inefficiencies. This issue often reflects broader confidence gaps in statistical and mathematical competencies. Studies demonstrate that teachers exhibit significantly lower confidence in teaching statistics compared to other mathematical concepts, with deficiencies particularly pronounced among those lacking additional professional certification and experience, a situation that mirrors the challenges faced in professional environments where gaps in statistical knowledge can hinder decision-making and operational efficiency, thus emphasizing the critical need for targeted professional development to boost proficiency and confidence in statistical tasks, which is essential for enhancing both educational outcomes and professional decision-making effectiveness (Umugiraneza et al., 2022). Henderson and Corry (2021) further highlight the critical need for comprehensive data literacy training for educational professionals, emphasizing that effective data use is essential for informed decision-making. This proficiency gap underscores the need for effective educational interventions to enhance statistical literacy and equip individuals with the necessary skills to navigate complex data landscapes.

Teaching analytics has shown promise in enhancing teaching practices and learning outcomes through effective data use. However, there are challenges related to data collection and the usability of analytical tools, which underscore the need for improved data literacy among educators (Ndukwe & Daniel, 2020). In parallel, there is a recognized gap in empirical research and consensus regarding data literacy competencies and effective teaching methods. This highlights the need for more research to define effective teaching methods and competencies at the university level (Ghodoosi et al., 2023). Integrating these perspectives could help address the practical challenges of implementing data-driven teaching practices and the need for well-defined, evidence-based data literacy competencies.

SPSS (Statistical Package for the Social Sciences) is a widely utilized software for data management and statistical analysis, particularly within the social sciences. Its user-friendly interface and robust analytical capabilities make it a valuable tool for researchers. However, the potential of SPSS is often underutilized due to insufficient training and a lack of comprehensive understanding of its functionalities. Users generally prefer using SPSS software for data analysis and agree that it is essential for research to produce accurate results and enhance the effectiveness and authenticity of research work. Despite this, some respondents also express the need for expert guidance to understand better SPSS results (Jain & Sengar, 2024). While SPSS is considered user-friendly, its effectiveness can be compromised without proper training. Studies suggest that those with adequate training navigate the software more effectively, indicating that enhanced training programs could significantly improve user proficiency and the quality of their analyses (Huang et al., 2024). This proficiency gap hampers the effective application of statistical methods and the accurate interpretation of data, thus impacting the quality of research and decision-making processes. To address this, SPSS workshops offer practical experience with essential statistical tests and data analysis techniques through exercises that simulate real-world scenarios. This approach aims to enhance technical skills data management, and interpretation confidence. Nwagwu (2024) highlights data literacy's significant growth and interdisciplinary nature, underscoring the need for clear educational frameworks and library support to advance the field.

This study addresses the proficiency gap in statistical test proficiency and data analysis literacy by systematically evaluating the impact of SPSS workshops. Using the pretest-posttest design, the study assesses how these workshops affect participants' skills, focusing on the hands-on application of statistical concepts in a user-friendly

software environment. The workshops are designed to integrate real-world data scenarios, reinforcing theoretical knowledge through experiential learning and aiming to build technical proficiency and confidence in data management and interpretation.

2.0 Methodology

2.1 Research Design

Experimental research is a method specifically designed to test hypotheses concerning cause-and-effect relationships. It is considered one of the most rigorous methods for identifying causal links between variables, providing a valid approach to addressing educational problems in practice and theory (Creswell, 2015). This type of research is essential for determining whether an idea, practice, or procedure significantly impacts an outcome, known as the dependent variable. When the goal is to establish the possible causes and effects between independent variables and the dependent variable, experimental research becomes an indispensable tool. In this study, a one-group pretest-posttest design was employed to investigate the effectiveness of the intervention on participants' proficiency levels. This design involves selecting a single group of participants assessed before and after the intervention. Initially, the participants underwent a pretest to establish a baseline measurement of the dependent variable, reflecting their proficiency levels before introducing any intervention. Subsequently, the intervention aimed at enhancing their proficiency was administered. After the intervention, a posttest was conducted to evaluate any changes in the dependent variable. The difference between the pretest and posttest scores provided insights into the impact of the intervention. While this design does not include a control group, which may limit the ability to definitively attribute changes to the intervention, it remains valuable for preliminary investigations. Focusing on changes within the same group of participants, the one-group pretest-posttest design offers a practical way of assessing educational interventions' potential effectiveness in real-world settings.

2.2 Research Participants

The study subjects were 70 BSED - Math students These students were administered a pretest to determine their baseline proficiency levels before the intervention. After the intervention, the same group was given a posttest to evaluate any changes in their proficiency. A purposive sampling technique was employed to select the participants. Although purposive sampling does not offer the statistical representativeness of random sampling, it is useful for targeting specific populations to understand the effects of interventions within that group (Creswell, 2015). This approach allows for a more focused investigation into the impacts of the SPSS workshops on students directly engaged in the relevant field.

2.3 Research Instrument

This study employed researcher-developed instruments as the main tools for assessing statistical test proficiency and data analysis literacy. Adhering to ethical guidelines, participation was voluntary, and the validation of these instruments followed a structured approach. Initially, educational and assessment experts scrutinized and refined the test items to align them with the study's objectives. A pilot test was carried out with a small group of participants following expert reviews. This step aimed to identify and address any ambiguities in the questions and assess the instruments' overall clarity and effectiveness.

The statistical test proficiency instrument began with 30 questions, but item analysis during the pilot phase reduced it to 25. Items that were ambiguous, redundant, or did not effectively differentiate between high and low performers were removed. Content validity was ensured through expert reviews, while construct validity was verified using factor analysis to confirm that the items accurately measured various aspects of statistical proficiency.

The data analysis literacy instrument, a 30-item Likert-scale questionnaire, was developed to cover essential aspects such as data understanding, method selection, result interpretation, and application. This instrument also underwent a pilot test, with feedback used to enhance item clarity and relevance. The high Cronbach's alpha value of 0.918 demonstrated excellent internal consistency, reflecting that the items reliably measured the same construct.

2.4 Data Gathering Procedure

This study followed a systematic procedure to gather data. First, participants were selected from BSED - Math college students enrolled at Passi City College, ensuring that the sample was representative of the target population. The selection process aimed to capture a broad range of proficiency levels in statistical tests and data analysis literacy, which was crucial for evaluating the effectiveness of the intervention. Second, participants were randomly assigned to ensure a representative sample and to minimize selection bias, thereby enhancing the rigor of the experimental design. This random assignment helped ensure that any differences observed in the outcomes could be attributed to the intervention rather than pre-existing differences between participants.

Third, participants completed a pretest, which included an objective test to assess their proficiency in statistical tests and a Likert-scale questionnaire to measure their data analysis literacy. This baseline data provided a clear picture of their skills and knowledge before the intervention, serving as a reference point for subsequent comparisons. Next, the 5-day intervention consisted of a series of SPSS workshops to enhance participants' statistical and data analysis skills. These workshops combined theoretical instruction with practical experience using SPSS software, ensuring participants could effectively apply what they learned to real-world data analysis tasks. The workshops were carefully structured to build upon participants' existing knowledge and progressively develop their competencies.

Following the workshops, participants were administered the posttest, which mirrored the pretest in content and format. This approach allowed for a direct comparison of their performance and knowledge before and after the intervention, providing a clear measure of the workshops' impact. Finally, the pretest and posttest data were analyzed using statistical methods such as paired t-tests, analysis of variance (ANOVA), and Pearson's r. These analyses were conducted to determine if the intervention significantly improved participants' proficiency and data analysis literacy and to examine the relationship between statistical test proficiency and data analysis literacy skills. With its pretest-posttest model, this experimental design enabled a robust evaluation of the workshops' effectiveness.

Strict controls were maintained throughout the data collection to ensure consistency and reliability. Ethical guidelines regarding participant consent, confidentiality, and fair treatment were rigorously followed. Participants were assured of the confidentiality of their responses and informed that the study's findings would be used solely for academic and educational purposes.

2.5 Ethical Considerations

This research study was conducted in strict accordance with ethical standards to protect participants' rights and ensure the credibility of the research process. Participation in the study was entirely voluntary, with participants being free to withdraw at any stage without any repercussions. Comprehensive measures were taken to minimize potential risks, including physical, psychological, and social harm, thereby ensuring the safety and well-being of the BSED-Math students involved in the study.

Confidentiality was rigorously maintained throughout the research process. All data collected were treated with the highest level of confidentiality and used exclusively for this study. The participants' identities were safeguarded by anonymizing all responses during data analysis and reporting, ensuring no personal information could be traced back to individual participants.

The study also upheld the dignity and rights of all participants by adhering to ethical principles of fairness, respect, and sensitivity. Informed consent was obtained from all participants before their involvement in the study. The study's nature, objectives, and procedures were clearly explained to the participants, and any questions or concerns were addressed thoroughly. This approach ensured that participants were fully informed and voluntarily consented to participate in the research.

3.0 Results and Discussion

3.1 Statistical Test Proficiency Level of Students

Statistical test proficiency refers to students' ability to correctly select, apply, and execute appropriate statistical tests for different types of data and research questions. Table 1 presents the participants' pre-test and post-test

mean scores, providing both overall results and results categorized by year level. It highlights the proficiency levels before and after the intervention, specifically focusing on the impact of the SPSS workshops.

Table 1. Statistical test proficiency levels in the pre-test and post-test

Group	Pre-test				Post-test		
	N	Mean	SD	Description	Mean	SD	Description
As a Whole	70	5.76	2.28	Limited	15.10	2.07	Proficient
First Year	23	5.57	2.52	Limited	14.96	2.33	Proficient
Second Year	17	6.18	2.00	Limited	15.59	1.77	Proficient
Third Year	14	5.64	1.34	Limited	14.79	1.37	Basic
Fourth Year	16	5.69	2.87	Limited	15.06	2.54	Proficient

Note: *Advanced Proficiency (20.00 - 25.00 points); Proficient (15.00 - 19.99 points); Basic Proficiency (10.00 - 14.99 points); Limited Proficiency (5.00 - 9.99 points); Minimal Proficiency (0 - 4.99 points)*

The pre-test outcomes revealed that participants across all year levels generally demonstrated "Limited Proficiency" in statistical testing. Specifically, the mean scores were 5.57 for first-year students, 6.18 for second-year students, 5.64 for third-year students, and 5.69 for fourth-year students. The overall mean score across all participants was 5.76, confirming that, on average, students were within the "Limited Proficiency" range before the intervention.

Following the intervention, which involved a series of SPSS workshops to enhance statistical test proficiency, a marked improvement was observed across all year levels. Post-test mean scores demonstrated significant gains, with first-year students reaching 14.96, second-year students 15.59, third-year students 14.79, and fourth-year students 15.06. The overall post-test mean score for all participants increased to 15.10. This score falls within the "Proficient" category, indicating that, as a whole, the participants had developed a more advanced level of proficiency in statistical testing following the intervention.

These findings suggest that the SPSS workshops were effective in significantly improving students' statistical test proficiency. The transition from "Limited Proficiency" in the pre-test to "Proficient" in the post-test underscores the intervention's efficacy in enhancing the participants' understanding and application of statistical tests. The results also highlight the importance of structured, targeted educational interventions in developing essential analytical skills among students, particularly in statistical data analysis.

The significant increase in post-test scores across all year levels further supports the conclusion that the intervention had a broad and positive impact, improving the student's ability to perform statistical tests accurately and effectively. This outcome is particularly noteworthy, given that the initial proficiency levels were relatively low across all groups. The improvement to a "Proficient" level suggests that the SPSS workshops not only met but exceeded the expectations regarding their impact on students' statistical literacy and analytical capabilities.

The findings of this study align with Castillo's (2024) study, which also emphasizes the positive impact of evidence-based strategies on statistical literacy. Castillo's research demonstrated that implementing Share and Model Concepts and Nurturing Metacognition strategies significantly improved students' understanding of statistical concepts, ability to visualize and communicate statistical information, and overall statistical literacy. Castillo's study highlights that evidence-based pedagogical strategies can substantially elevate students' proficiency in various aspects of statistical analysis. This alignment reinforces the value of employing targeted instructional approaches to foster significant gains in statistical capabilities. This study collectively underscores the importance of structured interventions in developing and improving students' analytical skills and understanding of statistical concepts.

3.2 Data Analysis Literacy Level of Students

Data analysis literacy skills refer to students' ability to accurately interpret, critically evaluate, and effectively communicate the results of statistical analyses. Table 2 presents the participants' pre-test and post-test mean scores. It highlights the literacy skill levels before and after the intervention, specifically examining the impact of the SPSS workshops on the student's ability to analyze data.

Table 2. Data analysis literacy levels in the pre-test and post-test

Group	Pre-test				Post-test		
	N	Mean	SD	Description	Mean	SD	Description
As a Whole	70	2.80	.53	Introductory Understanding	4.13	.49	Analytical Competence
First Year	23	2.78	.67	Introductory Understanding	4.13	.49	Analytical Competence
Second Year	17	2.69	.43	Introductory Understanding	3.98	.49	Applied Knowledge
Third Year	14	2.88	.36	Introductory Understanding	4.19	.40	Analytical Competence
Fourth Year	16	2.90	.57	Introductory Understanding	4.25	.54	

Note: *Advanced Application (4.50 - 5.00); Analytical Competence (4.00 - 4.49); Applied Knowledge (3.00 - 3.99); Introductory Understanding (2.00 - 2.99); Basic Awareness (1.00 - 1.99)*

Table 2 presents participants' data analysis literacy levels, assessed through pre-test and post-test evaluations and categorized by year level. The pre-test results indicated that participants across all year levels predominantly demonstrated an "Introductory Understanding" of data analysis concepts. Specifically, the mean scores were 2.78 for first-year students, 2.69 for second-year students, 2.88 for third-year students, and 2.90 for fourth-year students. The overall pre-test mean score was 2.80, confirming that, on average, the participants' data analysis literacy was within the "Introductory Understanding" range before the intervention.

Post-test assessments revealed a significant improvement in literacy levels across all groups. The mean scores increased to 4.13 for first-year students, 3.98 for second-year students, 4.19 for third-year students, and 4.25 for fourth-year students. Collectively, the overall post-test mean score rose to 4.13, reflecting a transition to the "Analytical Competence" level. These results suggest that the intervention effectively enhanced the participants' data analysis literacy. The shift from "Introductory Understanding" in the pre-test to "Analytical Competence" in the post-test demonstrates the substantial impact of the intervention in improving students' analytical skills, equipping them with the knowledge necessary for more advanced data analysis tasks.

The findings of this study are supported by the research conducted by Sheriff and Sevukan (2023), which underscores the critical importance of developing robust data literacy skills. Sheriff and Sevukan's study highlights that advancements in data literacy are essential for effective data management and analysis, and they advocate for a focused approach to improving data literacy through targeted educational strategies. This support reinforces the significance of structured interventions in enhancing data literacy. This study emphasizes the positive outcomes of targeted educational programs on students' abilities to analyze data, suggesting that such interventions can significantly advance students' data literacy levels from foundational understanding to more sophisticated analytical competence. This collective evidence underscores the effectiveness of well-designed educational interventions in improving key data analysis skills and preparing students for more complex analytical tasks.

3.3 Difference in the Statistical Test Proficiency Level

Table 3 presents the differences in pre-test and post-test scores in statistical test proficiency across different year levels. The analysis focuses on comparing scores within each year level, highlighting the changes in proficiency before and after the intervention.

Table 3. Difference in the statistical proficiency test level across year-level

Group	Mean	Mean Difference	df	t-value	sig-value
First Year					
Pre-test	5.57	9.39	22	57.54	0.000*
Post-test	14.96				
Second Year					
Pre-test	6.18	9.41	16	48.80	.000*
Post-test	15.59				
Third Year					
Pre-test	5.64	9.14	13	64.00	0.000*
Post-test	14.79				
Fourth Year					
Pre-test	5.69	9.38	15	42.37	.000*
Post-test	15.06				

*significant at p< 0.001

Table 3 presents the differences in pre-test and post-test scores across various year levels. The results indicate a significant difference in all year levels' pre-test and post-test scores. Specifically, the first-year students showed a significant improvement in their scores, with a p-value of 0.000 ($p < 0.001$), indicating a notable increase in statistical test proficiency after the intervention. Similarly, the second-year students also exhibited a significant difference between their pre-test and post-test scores, with a p-value of 0.000 ($p < 0.001$). The third-year and fourth-year students followed the same trend, demonstrating significant improvements with p-values of 0.000 ($p < 0.001$) for each group.

These results suggest that across all year levels, the intervention had a profound impact on enhancing students' proficiency in statistical testing. The consistent and significant p-values across all groups indicate that the improvements observed are statistically meaningful, reinforcing the effectiveness of the intervention in improving students' statistical competencies. This analysis highlights the value of educational intervention in boosting the statistical test proficiency of students at different academic stages, confirming its role in advancing their analytical capabilities.

The findings of this study align with the research conducted by Umar and Yakubu (2023), emphasizing the positive impact of evidence-based strategies on statistical literacy among students in Northwestern Nigerian Polytechnics. Umar and Yakubu demonstrated that implementing targeted pedagogical approaches significantly improved students' understanding of statistical concepts, ability to visualize and communicate statistical information, and overall statistical literacy. This alignment reinforces the value of employing structured instructional approaches to foster significant gains in students' statistical capabilities. This study underscores the importance of well-designed interventions in developing and enhancing students' analytical skills and understanding of statistical concepts.

3.4 Difference in the Data Analysis Literacy Level

Table 4 presents the differences in pre-test and post-test scores in data analysis literacy across different year levels. The analysis focuses on comparing scores within each year level, highlighting the changes in literacy before and after the intervention.

Table 4. Difference in the data analysis literacy level across year-level

Group	Mean	Mean Difference	df	t-value	sig-value
First Year					
Pre-test	2.78	1.35	22	23.88	0.000*
Post-test	4.13				
Second Year					
Pre-test	2.68	1.29	16	27.48	0.000*
Post-test	3.98				
Third Year					
Pre-test	2.88	1.32	13	54.18	0.000*
Post-test	4.19				
Fourth Year					
Pre-test	2.90	1.35	15	102.61	0.000*
Post-test	4.25				

*significant at $p < 0.001$

Table 4 presents the differences in pre-test and post-test scores regarding data analysis literacy levels across various year levels. The results indicate a significant improvement in data analysis literacy for all year levels following the intervention. Specifically, first-year students demonstrated a significant difference in their pre-test and post-test scores, with a p-value of 0.000 ($p < 0.001$), reflecting a considerable enhancement in their literacy skills. Similarly, second-year students showed a significant improvement, as indicated by a p-value of 0.000 ($p < 0.001$). The third-year and fourth-year students also experienced similar significant advancements, with p-values of 0.000 ($p < 0.001$) for both groups.

These findings suggest that the intervention effectively elevated students' data analysis literacy levels across all year levels. The consistently significant p-values across each group imply that the improvements are statistically robust, affirming the intervention's positive impact. This analysis underscores the educational program's

importance in fostering advanced data analysis skills among students at different academic stages, highlighting its effectiveness in cultivating their analytical competencies. The findings of this study can be supported by the research conducted by Filderman et al. (2022), which provides a meta-analysis of data literacy training effects. The study found significant positive outcomes in data literacy, particularly when collaborative formats were used, leading to enhanced knowledge and skills. These results parallel the improvements in students' data analysis literacy levels in this study, suggesting that structured and collaborative interventions effectively promote data literacy across different educational stages.

The research by Filderman et al. also highlights the importance of incorporating multiple data literacy skills and collaborative elements in educational interventions. These features likely contributed to the robust improvements in data analysis literacy observed in students across all year levels. The alignment of these findings underscores the broader applicability of data literacy interventions, emphasizing the significance of well-designed programs in enhancing data literacy and analytical competencies among learners.

3.5 Difference in the Statistical Test Proficiency Level Mean Gain Scores as to Year Level

Table 5 presents the mean gain scores in statistical test proficiency across different year levels. The analysis examines whether the mean gain scores of first-year, second-year, third-year, and fourth-year students differ significantly. This comparison aims to determine if there are statistically significant variations in the improvements in statistical test proficiency among students at different academic stages.

Table 5. Difference in the statistical test proficiency mean gain scores as to year level

Source of Variation	SS	df	MS	F	p-value	Decision	Interpretation
Between Groups	0.711	3	0.237	0.401	0.753	Accept	Not Significant
Within Groups	39.71	66	0.592				

Table 5 presents the analysis of variance (ANOVA) results for the mean gain scores in statistical test proficiency across different year levels. The ANOVA results indicate no significant difference in the mean gain scores among the year levels, suggesting that the intervention had a relatively uniform impact across all academic stages. This lack of variation in mean gain scores implies that first-year and fourth-year students benefited equally from the intervention, with no particular year level showing a statistically significant advantage over the others.

These findings suggest that the educational program designed to enhance statistical test proficiency was equally effective across the different year levels, leading to consistent improvements in proficiency regardless of the student's academic progression. This uniformity in results across the year levels underscores the versatility and broad applicability of the intervention in improving statistical test proficiency among students at varying stages of their academic careers. The findings of this study align with the research conducted by Batur and Baki (2022), emphasizing the positive impact of self-efficacy on statistical literacy among high school students. Batur and Baki demonstrated that the development of statistical literacy self-efficacy significantly predicted students' ability to grasp and apply statistical concepts, leading to improved overall statistical literacy.

This alignment is further reinforced by the work of Callingham and Watson (2022), who explored the development of statistical literacy in students over time. Their research confirmed that statistical literacy develops steadily across schooling stages, with a stable hierarchy of skills. However, they also noted that progress tends to plateau in later years, underscoring the importance of continuous and consistent educational interventions. These findings suggest that interventions like the one studied can have lasting impacts across different educational stages, supporting the idea that students can consistently develop their statistical proficiency when given structured support. Both studies highlight the importance of fostering students' confidence in their statistical abilities and providing continuous support through well-structured educational programs. This study underscores the value of educational interventions in developing and advancing students' understanding of statistical concepts across various stages of their academic journey.

3.6 Difference in the Data Analysis Literacy Level Mean Gain Scores as to Year Level

Table 6 presents the mean gain scores in data analysis literacy across different year levels. The analysis investigates whether the mean gain scores of first-year, second-year, third-year, and fourth-year students differ significantly.

This comparison aims to assess if there are statistically significant variations in the improvements in data analysis literacy among students at various academic stages.

Table 6. Difference in the data analysis literacy mean gain scores as to year level

Source of Variation	SS	df	MS	F	p-value	Decision	Interpretation
Between Groups	0.039	3	0.013	0.368	0.776	Accept	Not Significant
Within Groups	2.357	66	0.036				

Table 6 presents the analysis of variance (ANOVA) results for the mean gain scores in data analysis literacy across different year levels. The results reveal no significant difference in the mean gain scores among the year levels. This indicates that the intervention's improvement in data analysis literacy was consistent across first-year to fourth-year students. The absence of significant differences suggests that the intervention was equally effective in enhancing data analysis literacy for students at all year levels. This uniformity in the mean gain scores implies that the educational program provided similar benefits to students, irrespective of their academic standing. The findings highlight the intervention's broad effectiveness in advancing data analysis skills across different stages of academic progression.

This result aligns with the research study of Knobel, Kalman, and Lankshear (2020), emphasizing the importance of well-structured qualitative research approaches in understanding complex literacy practices. Their work underscores the significance of consistency in educational interventions, highlighting that carefully designed programs can yield uniform outcomes across diverse groups. This consistency ensures that educational initiatives effectively enhance literacy skills across various stages of academic progression. The research further illustrates how such interventions can provide significant and widespread benefits, reinforcing the value of strategic educational programs in fostering literacy development.

Similarly, Lankshear and Knobel (2018) discuss the importance of ensuring quality in research processes, particularly in data collection and analysis. Their study found that structured approaches in educational programs can effectively guide participants in achieving consistent and reliable outcomes. This further supports the notion that well-designed interventions can lead to uniform improvements in literacy skills across various academic levels, as evidenced in the present study.

3.7 Relationship Between Statistical Test Proficiency Level and Data Analysis Literacy Level

Table 7 presents the correlation between statistical test proficiency and data analysis literacy levels. This analysis reveals the strength and direction of the relationship between participants' abilities in conducting statistical tests and their proficiency in analyzing data. Examining these correlations provides insights into whether improvements in statistical test proficiency are associated with enhanced data analysis skills. This information is valuable for evaluating the effectiveness of educational interventions to improve statistical and data analysis competencies, which are critical for informed research and decision-making.

Table 7. Correlation analysis between statistical test proficiency level and data analysis literacy level

	Data Analysis Literacy	
	r – value	p-value
Statistical Test Proficiency	0.855	0.000*

significant at $p < 0.001$

Table 7 presents the correlation between statistical test proficiency and data analysis literacy levels. The analysis reveals a strong positive correlation with a correlation coefficient of 0.855 and a p-value of 0.000. The high correlation coefficient of 0.855 indicates a strong positive relationship between statistical test proficiency and data analysis literacy. This suggests that students with higher proficiency in statistical tests tend to demonstrate higher levels of data analysis literacy. The statistically significant p-value of 0.000 confirms that this correlation is robust and unlikely due to random chance.

These results illustrate a significant and positive association between the two variables, indicating that enhancements in one area are closely related to improvements in the other. This strong correlation highlights the integral role of statistical test proficiency and data analysis literacy in students' analytical capabilities. The findings of this study align with the research conducted by Dani and Al Quraan (2023), which highlights the importance

of students' attitudes toward statistics in shaping their research approach. Dani and Al Quraan found that students with a more positive understanding of statistical concepts are likelier to engage with quantitative research methods, thus improving their overall proficiency in data analysis.

This alignment is further reinforced by the work of Schreiter et al. (2023), who emphasize the critical role that statistical and data literacy play in STEM education. Their systematic review underscores the necessity of equipping educators with the competencies to effectively teach these skills, profoundly impacting students' learning outcomes. The review highlights the positive effects of well-designed pedagogical approaches on teachers' and students' understanding of statistical concepts, supporting the idea that a strong foundation in statistical literacy is essential for developing students' analytical skills. Both studies underscore the importance of fostering statistical and data literacy through targeted educational strategies. The strong correlation observed in the current study between statistical test proficiency and data analysis literacy further validates the need for integrated approaches that enhance these competencies simultaneously, thereby equipping students with the skills necessary to excel in data-driven environments.

4.0 Conclusion

This study assessed the effectiveness of SPSS workshops in enhancing statistical test proficiency and data analysis literacy among college students. After the workshops, the results demonstrated significant improvements in both areas, with post-test data revealing substantial mean gain scores across all year levels. This suggests that the SPSS workshops improved students' abilities in these domains. Additionally, the strong positive correlation between statistical test proficiency and data analysis literacy underscores the success of the intervention, indicating that advancements in one skill are closely associated with improvements in the other.

The practical implications of these findings emphasize the need to integrate SPSS workshops into academic programs. Such integration would give students essential tools for effective data handling and analysis, which is vital for academic and professional success. Theoretically, the study contributes to understanding the relationship between statistical test proficiency and data analysis literacy. The observed correlation suggests that enhancing statistical skills through SPSS workshops can improve data analysis capabilities, reinforcing the theoretical connection between these competencies.

However, the study has limitations, including a relatively small sample size and a focus on a single educational setting, which may affect the generalizability of the results. Moreover, the short duration of the SPSS workshop may not fully capture the long-term effects on students' skills and performance. Future research should aim to replicate these findings with larger and more diverse samples to validate and extend the results. Longitudinal studies could provide insights into the sustained impact of SPSS workshops on students' skills, and exploring the implementation of similar workshops in various academic contexts could offer further understanding of their effectiveness in enhancing overall academic performance.

5.0 Contributions of Authors

I confirm that I am the sole author of this work and have contributed to all sections. I have reviewed and approved the final manuscript.

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7.0 Conflict of Interests

The author declares no conflicts of interest about the publication of this paper.

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The Lived Experiences of Alternative Learning System Teachers in English Literacy Instruction

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Abstract. This study explores the challenges that Alternative Learning System (ALS) teachers face in English literacy instruction and the coping strategies they employ to overcome these hurdles. Given the crucial role of English literacy, this study aims to delve into the lived experiences of ALS teachers, who are pivotal in the knowledge transfer process. Employing a phenomenological approach within qualitative research, the study draws on in-depth, in-person interviews with five ALS teachers to gather rich, experiential data. The thematic analysis of the interview transcripts reveals that ALS teachers' roles encompass physical demands, mental fortitude, emotional investment, and social engagement. The themes that emerge as challenges in teaching the Communication Skills strand in English include high demands on teachers' resilience, diversity of students, limited instructional materials, limited instructional time, and negative public perception of teachers' roles and the program. Despite these challenges, ALS teachers develop coping strategies, including cultivating resilience to manage the demands of teaching the strand and maintaining a positive outlook. This study concludes that while ALS teachers face significant obstacles in managing the learning strand, their effective use of specific coping strategies ensures that each learner receives appropriately leveled instruction. Based on the findings, the researcher proposes a training program that can improve ALS teachers' pedagogical approaches to enhance further their capabilities in making a difference in the field of education through ALS and, most importantly, in the lives of their learners.

Keywords: ALS teachers; English literacy instruction; Challenges in teaching; Coping strategies; Diverse learners; Teaching resilience.

1.0 Introduction

English literacy is considered an essential skill in today's globalized world. Proficiency in English enables individuals to communicate effectively, access information, and participate in a globalized workforce (Bawa, 2020; Eslit & Valderrama, 2023; Heryono & Gunawan, 2019), thus opening doors to various opportunities, including employment, higher education, and social mobility (Armea et al., 2022; Bachore, 2022). Literacy in English encompasses proficiency in reading, writing, listening, speaking, and comprehending the English language (Spies, 2023), making English an essential language in education (Ali, 2022). Mastery of the fundamental English language skills is crucial for learners to communicate effectively. Developing these skills fosters personal growth among students and empowers them to communicate proficiently and thrive in diverse settings and circumstances (Dimaano & Hương, 2019). This makes language literacy, including English literacy, a critical competency in the Philippine education system (Bastida et al., 2022).

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English also holds the status of an official language in the country and serves as the official language of the Philippines for communication and instruction, alongside the Filipino language (Department of Education [DepEd], 1987; Oducado et al., 2020). English has emerged as the predominant language of communication in different fields, such as education, mass media, and the sciences. Its continued prevalence grants English a socially advantageous position, equipping Filipinos with the ability to actively engage in a competitive global marketplace (Manalastas, 2022). However, while a significant portion of the Filipino population possesses a level of English proficiency, there has been a concerning decline in this regard, as evidenced by the Education First English Proficiency Index (EF EPI) over the past several years (Santos et al., 2022). EF EPI is a global ranking of countries based on the English language skills of their adult populations. It is an essential benchmark for assessing English language proficiency among adults.

In 2020, the Philippines' ranking in the EF EPI dropped from 20th to 27th. This decline is part of a broader trend of worsening English proficiency in the country, as evidenced by the EF EPI data. From 13th place in 2016, the Philippines slipped to 15th place in 2017, 14th place in 2018, and finally to 20th place in 2019 (Baclig, 2020). The Philippines experienced a four-notch decline in the 2022 edition of EF EPI, placing it 22nd out of 111 countries. Despite this drop, the Philippines remained the second highest-ranked country in English proficiency within East and Southeast Asia (Philippine Institute of Development Studies, 2023). This year, the country demonstrated a high level of English proficiency, ranking 20th out of 113 countries and second among 23 Asian nations (Parungao, 2023). The country has not yet reached a Very High English proficiency score in the assessment.

The Philippines' performance in two recent international literacy assessments for students has also been concerning. In the Programme for International Student Assessment (PISA) 2018, 15-year-old Filipino students who participated ranked last among 79 countries, scoring 140 points below the 487 OECD average points. Specifically, the Organisation for Economic Co-operation and Development (2019) reported that the average reading score in the Philippines was 340 points, comparable to the Dominican Republic score. Both countries had the lowest scores among all participating countries. In the Philippines, more than 80% of students did not achieve the minimum level of proficiency in reading, indicating a significant proportion of low performers compared to other PISA-participating countries and economies. Similarly, in SEA-PLM 2019, the Philippines ranked fifth among six Southeast Asian countries. These findings indicate that many Filipino students struggle with reading comprehension (DepEd, 2019; Espinosa et al., 2023).

In the context of the Alternative Learning System (ALS) program, specifically regarding ALS students' English language performance, Maramag (2022) conducted a study that revealed that ALS learners face challenges in developing their oral reading skills, evident in their reading difficulties and behaviors. Their word recognition skills are underdeveloped, as demonstrated by their frequent mispronunciation of words. A separate study by Tambis et al. (2023) evaluated the reading comprehension skills of grade 11 ALS students and revealed that mispronunciation was the most prevalent miscue among them. The researchers also concluded that the study participants had difficulty comprehending and responding to the reading comprehension test. They employed the Department of Education's Philippine-Informal Reading Inventory (Phil-IRI) Manual Tool as the primary instrument to assess reading comprehension skills, focusing on both word reading level and comprehension level. This is a matter of concern, as comprehension is the essence of reading, and without it, reading loses its meaning (Labarrete, 2019a).

Additionally, Labarrete (2019b) revealed that while learners demonstrate proficiency in composing in their native language, Waray, they encounter significant challenges when attempting to produce similar compositions in English. The researcher added that content organization, vocabulary, and mechanics pose the most significant teaching challenges for the ALS-A&E Writing curriculum implementers. In contrast, vocabulary, content, and mechanics present the most significant learning hurdles for the clientele. Furthermore, Lucero and Ibojo (2023) investigated the English writing tasks of ALS graduate students enrolled in the Senior High School at Bunawan National High School. They revealed that these students faced challenges in organizing their ideas, using punctuation marks correctly, developing comprehensive content, and employing a diverse vocabulary.

In terms of ALS students' oral communication, Cagoco (2021) found that students grapple with communication and idea expression, evident in their stuttering when speaking English, struggles to articulate ideas due to limited

grammar knowledge and communication skills, and fear of making mistakes while speaking English. Moreover, in the brief written by Osawa (2021) for UNICEF Philippines, it was found that certain ALS students found sessions challenging and expressed difficulty in comprehending the explanations provided by mobile teachers when English was used as the medium of instruction. According to Moleño (2019), in his study titled Influencing Variables to the Competencies of Learners in the Accreditation and Equivalency Test of Alternative Learning System, it is reported that the weighted average mean in the competency in essay writing among ALS learners was 2.88. This score straddles the boundary between "adequate response" and "less than adequate response," indicating that while some learners display sufficient skills, a notable number fall short. The minimum passing score for this section is set at 3, underscoring the need for improvement to meet the requisite standard for passing.

For this reason, the importance of achieving English literacy is placed in formal education and non-formal education programs, such as the ALS program. The program is an essential initiative by DepEd to facilitate access to education for individuals who have not completed formal schooling, including out-of-school youth and adult learners (Defacto, 2022). Therefore, equipping learners of ALS with English literacy skills is essential in empowering them to become active participants in society. As English is the most widely used and firmly established global language in many fields, including those in which future graduates are likely to find themselves working (Rao, 2019), not only DepEd places utmost importance on English literacy skills mastery but also students themselves. Given the significant attention placed by the Philippine education system on achieving competencies in English literacy and students' realization of the impact of the language in their lives, it is crucial to consider the role that teachers play in the learning and teaching process relevant to English language mastery through education.

A study on ALS teachers' lived experiences in English literacy instruction is relevant. Such a study can provide valuable insights into how English literacy learning is achieved in inclusive education through ALS. By exploring the lived experiences of ALS teachers within this context, the study can shed light on the challenges, coping strategies, and effective practices teachers employ to facilitate English literacy learning among diverse learners. This includes delving into ALS teachers' instructional approaches, pedagogical techniques, and classroom management strategies. The study has the potential to identify specific areas within English literacy instruction where teachers require additional support. By gaining a comprehensive understanding of the challenges faced by ALS teachers, as well as their coping strategies and support needs in effectively instructing students with diverse abilities, backgrounds, and learning styles to enhance their English communication skills, we can develop programs that further foster teachers' motivation and dedication to their profession.

2.0 Methodology

2.1 Research Design

A qualitative research approach is employed to gain an in-depth understanding of the lived experience of Alternative Learning System teachers in English literacy instruction, highlighting the challenges they face and the coping strategies they employ to address them. In qualitative research, the researcher, looking at the lens through the participants' inputs, focuses more on experience, meaning, and perspective (Hammarberg et al., 2016). Qualitative research holds significant value in educational research as it delves into the "how" and "why" of research inquiries, facilitating a profound comprehension of experiences, phenomena, and contexts. This approach permits the exploration of questions that cannot be readily quantified, providing insights into the intricacies of human experiences (Cleland, 2017).

Specifically, the phenomenological research design is used for this study. This approach aims to uncover the essence and meaning of a particular phenomenon as it is experienced by those involved (Alhazmi & Kaufmann, 2022). The phenomenological approach originated from Edmond Husserl's belief that the self-experience of phenomena is the foundation for knowledge. This approach aims to comprehend how individuals construct reality and is employed by researchers to explore the meaning, composition, and essence of lived experiences. Through investigating the conscious experiences of individuals, researchers seek to distill and uncover the core aspects of these experiences (Edmonds & Kennedy, 2017).

2.2 Research Locale

This study was conducted in Bacolod City, Negros Occidental, specifically within DepEd's Division of Bacolod City. The study focused on Alternative Learning System (ALS) teachers in community learning centers and schools within the said division. The division offers a Basic Literacy Program (BLP), Accreditation and Equivalency (A&E) for both Elementary and Junior High School (JHS) and Senior High School (SHS). JHS is purely ALS, while the formal school manages SHS as per the Education Program Specialist for ALS.

2.3 Research Participants

The participants in this study were selected based on specific inclusion criteria. Teachers must be employed under the Alternative Learning System (ALS) program. Participants must currently hold assignments within DepEd - Division of Bacolod City. Additionally, participants must possess a minimum of one year of teaching experience. Lastly, they must have taught English literacy for at least one year, specifically through the Communication Skills in English strand.

Consequently, teachers who did not meet these criteria, including ALS teachers who have not taught Learning Strand I or those with less than one year of teaching experience, were excluded from participation in this study. By implementing these criteria, the study focused on the perspectives and experiences of ALS teachers with a substantial background in teaching English. The researcher initially targeted to include 8 participants, but ultimately, only 6 ALS teachers accepted the invitation to participate in the study. Out of the 6 participants, only 5 met the inclusion criteria.

Given the study's specific focus on the challenges and coping strategies in English literacy instruction through the Communication Skills in English strand, a smaller sample size still provides valuable insights, as the ALS teachers' sharing is focused on only one subject area. The straightforward nature of the topic and the rich, experiential data gathered from interviews support the sufficiency of participants. This approach aligns with qualitative research standards, emphasizing the depth and richness of data over mere quantity. This aligns with Morse's (2000) discussion on determining sample size in qualitative research, where the author highlighted what factors should be considered when deciding the number of participants.

2.4 Research Instrument

This study's primary data collection instrument was a semi-structured interview questionnaire, which guided the interviews conducted with the participants. Prior to data collection, the interview questions underwent a validation process by three experts in the field of English teaching. These experts rated the instrument on a scale of 1 to 5, where five indicated "Very High," or the instrument meets a very high extent, and one indicated "Not At All," or the instrument does not meet the criteria. The experts provided feedback and suggestions on the questions to ensure they met these criteria: clarity, appropriateness of language, alignment with the target construct, comprehensiveness of content, and ease of use. Individual interview schedules were arranged upon confirmation of their participation, accommodating the participants' availability and preferred location.

2.5 Data Gathering Procedure

The researcher formally requested permission to conduct a study on the lived experiences of Alternative Learning System (ALS) teachers in English literacy instruction through a letter addressed to the Division of Bacolod City Schools Division Superintendent. The Senior Education Program Specialist for Planning and Research signed the letter before being endorsed to the Schools Division Superintendent. Additionally, permission was also secured from the Chief Education Supervisor through the Public Schools District Supervisor and the Division ALS Focal Person. The Education Program Specialist for ALS provided a list of possible participants. The researcher reached out to them via text messaging and phone calls.

Informed consent was obtained from each participant who accepted the invitation, emphasizing their rights to confidentiality. This was highlighted before and at the beginning of the interviews. The participants were also briefed on the study's nature and purpose. Additionally, the researcher provided the participants with an interview guide containing questions prepared before the interview. The interviews were conducted in a suitable setting to ensure the participants' comfort, ease, and privacy. Semi-structured interviews were conducted with ALS teachers to gather data on their lived experiences in English literacy instruction. The interviews were audio-

recorded with the participant's consent to ensure accurate data collection. The researcher additionally documented observations during the interview process.

2.6 Ethical Considerations

The researcher obtained individual consent from each participant to confirm their voluntary participation. Informed consent forms were provided and signed by the interviewees before the interviews. Measures were implemented to uphold participants' rights concerning anonymity, confidentiality, and feedback on the study's results. No names were recorded on the interview questionnaires, and pseudonyms (T1 to T5, representing all teacher participants) were assigned to each interviewee. The researcher assured the interviewees, Education Program Specialists, and the DepEd Division of Bacolod City that their information would remain safeguarded and protected even after the completion of the study. Lastly, the researcher conducted a debriefing process after each interview, during which the researcher expressed gratitude and acknowledged the significance of each participant's expertise and contributions to the research.

3.0 Results and Discussion

3.1 Experiences

Four distinct themes emerged from the research data on experiences: physical, mental, emotional, and social. Each aspect generated one theme.

Theme 1: Balancing Act: The Physical Demands of ALS Teaching

A balancing act between strain and stamina characterizes the physical side of educators' experiences. It often takes center stage in the rigorous environment of teaching the Alternative Learning System (ALS). ALS teachers cross a difficult ground that puts their stamina and resilience to the test as they work with underprivileged students and facilitate education in various situations. They bear physical obligations that go well beyond the walls of conventional classrooms, from the persistent demands of travel to the strain of hauling large loads. This subject explores the challenges experienced by ALS teachers, showing the incredible tenacity and endurance that allow them to continue in their admirable quest for educational excellence while bringing attention to the physical toll that stress, exhaustion, and the demands of their jobs have on their bodies. These selected responses from the participants shed light on the physical demands of teaching, highlighting the challenges that put teachers' stamina to the test.

"*You travel a lot because you have a different CLC every day. As ALS teachers, we are required to work in three community learning centers. So, every day, where you teach varies, your learners vary, and the places vary. So, sometimes, you cannot attend to prior commitments for the family because you must put extra effort into your profession as an ALS teacher.*" (T5)

"*I think you need to have good endurance. Because first, you are the one who is… You are going to areas or houses to invite learners and enroll them. So, first, you need to have physical endurance. Moreover, number two, in a way, is advantageous for me because when you have that kind of job, you are mobile all the time. I think it also adds up to your… your strength, your physical, ah, endurance.*" (T2)

In summary, the physical experiences of ALS English teachers have highlighted the arduous nature of their work and the enormous sacrifices they make to improve their students' education. Even though they undoubtedly confront obstacles, their tenacity and unshakable commitment come through, underscoring the significant influence of their efforts in advancing educational justice and empowering underrepresented populations. These findings are supported by a study that reported that ALS teachers face unique challenges compared to teachers in traditional classrooms. One such challenge is their constant mobility, which may require assistance adapting to a conventional classroom setting when initially hired. Moreover, they may be assigned to remote locations that are difficult to access, resulting in uncomfortable travel arrangements (Funtecha et al., 2023).

Theme 2: Empathy in Action: Nurturing Mental Resilience

The psychological side of teachers' experiences underscores the intricate balance they must maintain between their mental preparedness, emotional resilience, and dedication to their students' well-being. It is an active demonstration of cognitive empathy by Alternative Learning System (ALS) teachers, who understand and respond empathetically to their learners' struggles. These selected responses from the participants paint a vivid

picture of the complex interplay between their profession's mental and emotional aspects. One teacher reflects on teachers' mental challenges and self-doubt regarding their effectiveness, particularly concerning exam results and students' success. This intertwines with their emotional investment in their students' outcomes.

"*Would I be able to let all of them pass at the end of the year? Am I an effective teacher to them? Since we had an exam prior to the modular, I always had this fear for my students. What if only 25% of my 200 learners pass the exam? What will happen to the 75%?*" (T1)

Another teacher highlights the resilience needed, emphasizing the importance of a positive outlook and recognizing students' motivations to manage the diverse challenges in ALS, showcasing a deep psychological understanding.

"*Number one, you really must understand (sighs) the psyche of the learners. Most of them are not motivated. That is… that is the basis for the Alternative Learning System. When you want to become an ALS teacher, you must focus on their motivation.*" (T2)

ALS educators have a deep-seated fear of their students failing, a notable characteristic of the mental component. Teachers frequently struggle with this obligation because of their learners' backgrounds and learning styles. They worry that their efforts might not provide the results they are hoping for. This showcases the enormous pressure on ALS teachers as they influence their students' literacy development.

Theme 3: Building Bonds: Emotional Support for Learners

In the Alternative Learning System (ALS), teachers often navigate a complex emotional landscape as they work with students from diverse backgrounds, particularly financially challenged ones. Their emotional state is deeply intertwined with their commitment to educating and empowering these students, many of whom face significant barriers to academic success. ALS teachers are not just educators but also mentors, advocates, and sources of support for their students. These responses from the participants underscore the emotional bonds they form with their students and highlight their concern for their learners' well-being.

"*I am worried, but I do not stop. I do not stop encouraging them. I do not stop giving them chances*." (T1)

"*I also get frustrated realizing my learners' needs because most of my learners in a particular barangay are poor. Sometimes, I provide for their needs. "Ma'am, I do not have money for the fare; Ma'am, I do not have food," so you, as a teacher, would feel for them. I get frustrated seeing them hungry. Sometimes, they are shy about sharing it, but you can see it yourself. You can see it in their faces and notice their pale faces. However, they still attend classes*." (T5)

Teachers strive to maintain emotional balance and professionalism in their interactions with students. They understand the importance of setting boundaries between their emotional selves and professional roles. However, this distinction can be challenging to uphold, especially given the diverse and often vulnerable learners who enroll in the program. Despite efforts to maintain a professional demeanor, ALS teachers inevitably find themselves emotionally invested in the well-being and success of their students, given the unique challenges and backgrounds of those they serve.

This deep level of care is vividly illustrated by the participants in a study by Sumawang et al. (2024), highlighting teachers' proactive measures during challenging times. As detailed in the study, teachers adapted their teaching methods by providing modules to learners who missed lessons due to the disruptions caused by the pandemic and other factors. These modules were not just educational stopgaps but were delivered directly to students' homes, ensuring that educational engagement continued despite physical absences. Such actions demonstrate that mobile teachers maintain a solid commitment to the welfare of their learners, transcending barriers of age, sex, or family background, thereby supporting the notion that their emotional connection with students is deeply intertwined with their educational mission.

Theme 4: Fostering Inclusion: Community Social Engagement

This theme underscores the pivotal role of Alternative Learning System (ALS) teachers in connecting various societal segments to enhance educational outcomes. ALS teachers are uniquely positioned to forge bonds beyond the conventional classroom as facilitators at the intersection of education and community engagement. This bridging is not merely a facilitative role but a transformative one, where educators act as liaisons between students and broader societal resources. By integrating community values and resources into their pedagogical strategies, teachers can create a more inclusive, supportive educational environment that mirrors the diverse realities of their students' lives. These responses from ALS teachers highlight the social aspects of teaching, emphasizing the importance of building connections and partnerships within the community.

"*I want to reach out to TESDA. It is so hard to reach TESDA. I do not know all about that. Ah… Because of ALS, I thought of connecting to LGUs, government agencies, and private personnel. I even thought of reaching out to businessmen to find ways for my learners to have some materials we need in class – supplies, resources*." (T3)

"*You are training yourself to communicate with others. Like for example, barangay captains, government officials, stakeholders, your principal in school, and the parents. So, you develop strategies for approaching them easily*." (T4)

Engaging with diverse stakeholders is pivotal, as evidenced by the sharing of the participants. These interactions between teachers and stakeholders enhance teachers' communication skills and serve a more strategic purpose. Teachers proactively contact various local entities—including government units, barangay officials, school authorities, and parents—to foster better relationships and secure essential support for the program. These efforts aim to improve the welfare of the primary beneficiaries of the ALS program: the students.

This is why, in the study conducted by Gochuico (2021), most Instructional Managers in the ALS programs in the City of Dasmariñas highlight the critical role of establishing external partnerships. These partnerships are essential because they enable acquiring resources, exchanging knowledge, and attaining accreditation, all fundamental elements for supporting and sustaining ALS programs.

3.2 Challenges

Five themes emerged from the research data on the challenges category, specifically relating to English literacy instruction or teaching the Communication Skills strand in English.

Theme 1: Fostering Resilience in Teaching

Teaching English literacy in the Alternative Learning System (ALS) setting presents unique challenges that test the resilience of teachers. For educators, resilience is not just about personal endurance but about sustaining the motivation and energy required to engage and inspire students, manage classroom dynamics, and adjust teaching strategies in response to diverse learning needs. In ALS, teachers face many daily challenges ranging from administrative pressures and resource limitations to diverse student needs and behavioral management. The capacity to remain committed and optimistic in the face of these challenges is crucial. It ensures teachers maintain a positive learning environment and effectively support their students' educational journeys.

One participant shared the struggle of teaching in a language that students may not fully comprehend. Despite using English as the medium of instruction, many students still require explanations in the vernacular, leading to a sense of frustration and stress for the teacher. This highlights the gap between the intended instruction and the student's understanding, emphasizing the need for creative strategies to bridge this divide and the urgency of finding innovative solutions.

"*We have six strands, five strands in English. However, I need to translate it so they understand what I am discussing. I need to speak in Filipino. I am talking or speaking in English, and we use English as a communication medium inside the classroom. However, they cannot understand what I am discussing, especially when I give instructions. Then, somebody would send a private message to me asking, "Ma'am, what did you say? What was that, Ma'am?" They need clarification. They are asking for clarification. So, instead of using English, I use the vernacular so as not to waste time. It is stressful when you receive many messages from learners telling you they cannot understand. Even the simple ones.*" (T1)

Another teacher pointed out the importance of a conducive learning environment, emphasizing the impact of physical space on learning outcomes. The lack of permanent classrooms or designated learning areas can hinder students' focus and engagement, making it challenging to deliver English instruction effectively. This highlights the need for adequate resources and infrastructure to support effective teaching and learning in ALS.

"*... with my experience, having a classroom or having a permanent area is… that would make learning conducive. And then… that may sound cliché, but that is the truth. Because, for example, we are making a portfolio, the outputs, for example, if you are in a gym or an open space, some of them cannot focus. So, I think the disadvantage would be that we do not have Community Learning Centers or classrooms.*" (T2)

Several teachers highlight a significant communication challenge due to language barriers. Many ALS learners struggle with the primary medium of instruction, English. This difficulty is not merely a function of vocabulary or grammar but extends to the basic ability to understand instructions and engage with the educational content. Teachers must shift from English to local languages or dialects like Filipino and Hiligaynon to make learning more accessible and ensure students grasp the curriculum effectively. This is the same approach that participants used in the study by Arca (2015). The participants integrated the use of the mother tongue as they taught ALS students, making the latter not feel discriminated against during the instruction. This linguistic adjustment, while necessary, introduces complexity into teaching and requires significant flexibility and understanding from educators.

Theme 2: Embracing Diversity in ALS Education

Diversity in the classroom encompasses a broad range of differences among students, including cultural, socio-economic, linguistic, cognitive, and learning abilities. This diversity fundamentally shapes the teaching and learning environment, compelling educators to adapt their teaching styles and content to accommodate various backgrounds and needs. Teachers must be adept at understanding these differences and skilled in crafting accessible lessons for all students. The presence of diversity can enrich the educational experience, providing students and teachers alike with broader perspectives and learning opportunities. However, it also poses challenges, such as the need for differentiated instruction and the potential for misunderstandings or disparities in educational outcomes. Handling diverse students in the Alternative Learning System (ALS) setting presents a multifaceted challenge for teachers in English literacy instruction, as shared by some teachers.

"*So, in my experience, that is too difficult because even if they… you can consider it a homogenous grouping because all of them are in high school. However, ahm… in terms of their background, in terms of their prior knowledge, in terms of their training, I think that... that there is still lacking… there would always be a lacking part for them to… for a teacher to be able to have, like, the class for everyone. So, ahm, that is very challenging because, number one, you need to have differentiated materials. Number two, you need extra time with those who need to catch up*." (T2)

"*... our learners are from different levels. There are Grade 6 and Grade 3, and they are not on the same level, so it's multi-grade. So, for the level of this specific child, your approach should be different. It should be different for others, too. They are fast learners. They know more already. Some are behind*." (T4)

Several pivotal themes emerge from the teachers' shared experiences when analyzing the challenges of handling diversity in ALS classrooms. These narratives illustrate the profound complexity and nuanced demands placed on ALS educators as they strive to address their learners' varying educational needs. Teachers face a significant challenge bridging the educational gaps among students from varied academic backgrounds, including differences in schooling levels and prior educational interruptions. These gaps manifest in basic literacy skills, with some students struggling with fundamental concepts such as sentence construction and vocabulary.

The same is true in the study findings of Arzadon and Nato (2015), which detailed the struggle of ALS teachers handling diverse learners. According to them, ALS teachers often face the significant challenge of teaching an incredibly diverse group ranging from young children to the elderly. Their classrooms consist of adults with minimal literacy, hardly able to read and write. This diversity necessitates distinct pedagogical approaches tailored to each student's unique educational needs. This scenario demands that teachers create a curriculum accessible to all and engage in continuous assessment and adjustment to align their teaching strategies with the individual learning trajectories of their students.

Theme 3: Navigating Instructional Material Scarcity

Instructional materials are indispensable resources in the educational landscape, pivoting in facilitating effective teaching and learning experiences in the classroom. In the Alternative Learning System (ALS), where learners often face diverse challenges and come from varied educational backgrounds, instructional materials and their effectiveness are paramount. Tailored materials cater to ALS students' unique needs and circumstances, providing avenues for accessible and equitable education.

However, lacking instructional materials can significantly impede English literacy instruction in ALS. Without adequate resources, educators may struggle to effectively engage students, convey complex language concepts, or provide meaningful learning experiences. This shortage can hinder the development of critical literacy skills among ALS learners, potentially limiting their academic progress and future opportunities. Thus, recognizing the significance of instructional materials in the ALS program underscores the necessity for accessible resources and equitable access to quality education to optimize English literacy instruction and enhance learning outcomes for all ALS students.

Teachers recurringly discussed the challenge of teaching English literacy in ALS with limited instructional materials. They underscored the need to supplement the provided modules with their materials, such as Learning Activity Sheets, to ensure that lessons are comprehensible to students. This highlights the importance of teacher creativity and resourcefulness in adapting materials to suit the needs of their students, especially in simplifying complex concepts and instructions for better comprehension.

"*If you just based it on the module, it would be difficult for the learners. The instructions in the module are sometimes hard to understand, so you make it less difficult for the learners. You have to rephrase for the learners so they understand easily. Sometimes, the right phrasing can make something more understandable*." (T1)

"*... the modules are too fixed for a certain level only. Whereas, in the Internet, we can find leveled passages which, wherein I can adjust, I can give to the different learners*." (T3)

"*So, based on the modules given by the central office, for me, it is very hard for learners to understand. You need to facilitate and guide them. You should give extra examples*." (T4)

Another teacher also shared that there is a lack of access to essential resources like Wi-Fi, projectors, and speakers in Community Learning Centers, which limits the teachers' ability to utilize online resources and multimedia tools for teaching. This underscores the importance of providing adequate resources to enhance the quality of education in ALS and facilitate more engaging and effective teaching methods.

"*... however, one thing the is lacking is that our Community Learning Centers do not have Wi-Fi access. So, if you do not have an internet connection, you will not be able to enjoy everything. And then, at the same time, we do not have… not all our teachers have projectors, speakers, or television sets. So, if you go to a particular area, you must imagine, I have to bring a speaker, I have to bring my netbook, I have to bring a projector, just for me to show everything. So… but they are all available*." (T2)

These narratives underscore apparent discrepancies between the resources provided and the actual needs of both teachers and learners. Pablo (2021) underscores this point by highlighting several studies that reveal a consistent shortage of critical facilities and instructional materials in the ALS program, such as classrooms, textbooks, and manuals. This evidence further supports the argument that resource constraints are a significant obstacle affecting the effectiveness of ALS education.

Theme 4: Managing Instructional Time Constraints

Adequate instructional time is fundamental to effective teaching and learning. It serves as a cornerstone for educators, imparting knowledge, facilitating understanding, and nurturing academic growth among students.

Within the Alternative Learning System (ALS), where learners often contend with diverse educational backgrounds and interrupted formal education, having enough instructional time is paramount. Particularly in English literacy instruction, where proficiency in language skills is crucial for academic and personal development, sufficient time allows ALS educators to comprehensively address learners' varied needs.

However, when instructional time is limited, as is often the case in non-traditional educational settings like ALS, the impact on instruction can be profound. With constrained timeframes, educators may struggle to cover essential content, provide adequate support, or engage students effectively, ultimately hindering the development of critical literacy skills and impeding academic progress. Thus, recognizing the significance of ample instructional time in both the ALS program and English literacy instruction underscores the necessity for equitable access to quality education and the importance of addressing time constraints to optimize learning outcomes. ALS teachers face significant challenges due to limited instructional time to teach English literacy effectively. Teachers shared that class hours must be extended to make up for missed lessons and ensure all necessary content is covered. Others shared the necessity of reducing the number of competencies covered in a given period to ensure depth of understanding. These highlight the pressure teachers feel to meet curriculum requirements despite time constraints.

"*It is not enough. Sometimes, there is a need to extend my class. I need to ask my students to come on a Saturday so we can make up for the lessons missed. We have lessons that need to be taught*." (T1)

"*You cannot teach all competencies in English because there are a lot. So, we only teach competencies that are in the module. The rest of the modules are given as assignments since our time is limited, given that we only have class once a week. We teach in different places and CLCs daily, so you also handle different learners. The time given for English is limited*." (T5)

Although the schedule offered under the ALS program allows flexibility to busy students to complete their education without having to attend daily classroom sessions, as the program also caters to working individuals by providing flexible learning options (Selec, 2023), the limited time available for English instruction, compounded by the diverse teaching environments and learner needs, creates a significant challenge for ALS teachers in effectively teaching English literacy. These challenges highlight the need for creative instructional strategies and a reevaluation of the curriculum to ensure that essential English competencies are effectively taught within the constraints of the ALS program.

The structure of the ALS program, which often involves teaching at different Community Learning Centers (CLCs) each day and managing different groups of learners, further complicates time management. With classes typically held once a week per group, the limited instructional time restricts what can be realistically achieved in each session, potentially hampering the educational progress of ALS learners who may require more consistent engagement to meet learning objectives.

Theme 5: Maintaining Professional Reputation

Negative professional reputation can significantly affect teachers, particularly those in the Alternative Learning System (ALS), where misconceptions about the rigor and value of their work are prevalent. For teachers, a diminished professional reputation can lead to challenges such as decreased morale, reduced support from the community, and diminished self-efficacy, all of which can hinder their ability to engage and motivate students effectively.

This is especially critical in teaching core subjects like English literacy, where ALS teachers face substantial obstacles such as varying levels of student preparedness and linguistic diversity. When ALS teachers are perceived negatively or not taken seriously, it can exacerbate these challenges, making it harder to secure necessary resources and support and potentially leading to lower student engagement and achievement in English literacy. Such perceptions can undermine the teacher's authority and the seriousness with which students approach learning, thereby impacting educational outcomes within this vital field.

The narratives shared reveal challenges related to the professional reputation of ALS teachers, illustrating a complex interplay between community perceptions, misunderstandings about the nature of ALS education, and

the personal commitments of ALS educators. One teacher noted the dual perception of ALS teachers, with some appreciating their efforts while others perceived them as lazy due to misconceptions about the program's structure and intensity.

"*Those who do not understand ALS would always say that ALS teachers are… are lazy because they thought that in a week, I only have one class. However, those whose kids, whose relatives, whose… even whose parents have finished junior high school and their elementary with me as their teacher, ahm, they would always appreciate… in the community, of course, they know me as an ALS teacher. They would always say, "Wow, you have put so much effort into these individuals," So… Ahm, public perception is always (laughs), always varies, I think. However, those who do not know ALS would always say that… the job of an ALS teacher is very easy. However, they do not know everything happening in between (laughs)*." (T2)

Others reflected on the low public perception of both ALS teachers and the program,

"*Actually, for me, the public perception of ALS is so low, I think. So, they think that ALS is, in our terms, weak. So, for me, sometimes, my co-teachers from that school where I am assigned would say, "ALS is this and that.*" (T4)

"*So, they do not know what ALS is. "What is ALS?" Sometimes, we ALS teachers get insulted because they think the barangay employs us. They would comment that we should not pay attention to our learners. "Don't mind it, it's just ALS. It's easy." They don't know that ALS is the most challenging*." (T5)

These challenges underscore the need for greater awareness and appreciation for the ALS program and the dedication of its teachers, who often work against negative perceptions to provide quality education to marginalized learners. While some community members and parents express gratitude and recognition for teachers' efforts, especially when they see tangible benefits for students, others remain critical and unappreciative of the teachers' extensive efforts. In the study conducted by Pablo (2021), ALS teachers in Tanauan reported that both parents and barangay officials held negative views about ALS programs and projects, highlighting the issues and challenges they encountered. This duality adds an emotional layer to the professional challenges faced by ALS teachers, impacting their morale and how they perceive their effectiveness and value.

3.3 Coping Strategies

Two distinct themes emerged from the research data under the coping strategies category, specifically relating to English literacy instruction or the teaching of the Communication Skills strand.

Theme 1: Cultivating Resilience in English Literacy Teaching

Despite the challenges, including teaching diverse learners and coping with limited resources and time, Alternative Learning System (ALS) teachers exhibit exceptional dedication. According to UNESCO (2023), these educators go above and beyond by traveling long distances, working overtime, and utilizing personal resources to provide tailored learning experiences that address their students' diverse interests and abilities. Building resilience is identified as pivotal for ALS instructors, empowering them to adapt their instructional approaches and materials to suit the diverse educational backgrounds and needs of their pupils. This adaptability ensures that each learner is equipped with the tools to succeed despite the hurdles, emphasizing the importance of personalized educational strategies in resource-scarce environments.

Parto and Yango (2023) found that ALS teachers possess a high adversity quotient, indicating their substantial capacity to transform challenges into opportunities, manage tough circumstances effectively, and maintain a belief that situations will ultimately resolve positively. This fortitude also helps maintain educational continuity, which is especially crucial in ALS settings where learners may have previously experienced interruptions in their formal education. Overall, resilience in ALS teachers promotes an educational setting that is adaptable, inclusive, and supportive, empowering both teachers and learners to overcome obstacles and achieve their educational goals. These are the resilience-building coping strategies that participants shared for handling diverse learners:

"*Actually, for those advanced learners, there are fewer activities because I know they already know how to use the language or have the skill for that subject. I also give extra activities to those who are challenged*. "(T4)

"... you need to have different activities for them. It is a must to find out which areas they find most difficult. So, when we hold classes, using the same module for everyone, with challenged advanced students and learners, we exert more effort to the latter." (T5)

These responses highlight a common theme in handling the challenges of teaching diverse learners within the ALS program. Teachers employ different coping strategies that cater to learners at varying proficiency levels. Their experiences reflect a shared understanding and approach to instructional differentiation, a key aspect in building resilience as educators in a multifaceted learning environment.

These are the resilience-enhancing coping strategies participants shared for managing limited instructional materials:

"We add more inputs. I do my Learning Activity Sheets. It is better if the teacher does her activity sheets since she knows the status and level of her students. She knows the standards and her students' capacity." (T1)

"I use different sources from the Internet to get passages, to get sentences, sometimes, to get worksheets that I give to my learners..." (T3)

There are apparent similarities in how teachers handle the challenges of limited instructional materials in the ALS program. Each teacher describes different strategies for augmenting or customizing their teaching resources to meet the needs of their diverse learners. Their coping strategies highlight a shared experience of resource scarcity and demonstrate their resilience in overcoming these challenges to provide adequate education.

These are the resilience-enhancing coping strategies participants shared for managing limited instructional time:

"However, as an English major, I… I think I still have the upper hand in choosing the competencies. So, I would always go to the basics. I would not go deep in literature because we have little time with that." (T2)

"*I make sure to finish English so that the rest of the module can be given as an assignment. This way, the following week, we have modules to discuss. We do not have to discuss much as they have already studied at home. At least, we can focus on English.*" (T5)

Teachers have developed specific coping strategies to handle the challenges of teaching English literacy with limited allotted time. Their experiences demonstrate a consistent approach to maximizing instructional time through homework and focused competencies. In summary, the shared experiences of ALS teachers in managing English literacy instruction with limited time showcase their resilience as educators. Their coping strategies ensure that essential learning objectives are met and demonstrate their innovative and committed approach to teaching, which is essential for overcoming the inherent challenges of limited instructional time.

Theme 2: Fostering a Positive Outlook

A positive outlook is indispensable for teachers to shape their teaching approach and overall disposition. This optimism helps teachers manage the daily challenges and stresses inherent in the profession and enhances their ability to create a supportive and encouraging learning environment. When teachers maintain a hopeful and positive demeanor, they are more likely to engage students effectively, foster a sense of possibility within the classroom, and drive motivational and positive behavioral outcomes among their students.

A positive outlook becomes even more crucial in the Alternative Learning System (ALS) context, where educators frequently deal with students from diverse and often challenging backgrounds. ALS teachers face unique demands, including addressing interruptions in formal education and catering to various ages and learning levels. A positive mindset empowers teachers to see beyond these challenges to the potential in each student, encouraging persistence, resilience, and flexibility in their teaching methods.

Consequently, for ALS educators, maintaining a positive outlook is not just about personal resilience; it significantly influences their teaching efficacy and the program's overall success. By embodying optimism, ALS

teachers can better inspire hope and determination in their students, which is crucial for motivating learners who may have previously disengaged from traditional educational systems. This positivity, therefore, is vital in transforming the educational landscape for ALS students, fostering an environment where learning is seen as both achievable and transformative.

Examining coping strategies among ALS teachers reveals that maintaining a positive outlook is vital to their professional resilience and effectiveness. These educators collectively rely on positivity as a strategic response to their emotional and pedagogical challenges. This thematic consistency across their narratives underscores that fostering a positive outlook is more than a personal preference—it is an essential strategy for enhancing teaching efficacy and emotional well-being in the demanding environment of ALS education.

"*... it has to do with you as a person. Ah, personally, I really... at my age… I do not listen to negative things that other people say. Especially if I know I am doing the right thing (laughs). It doesn't, it does not bother me.*" (T2)

"*It drives me more because they have this negative impression of ALS - the learners and the teachers. I do not know what is with them; maybe they just do not understand the program.*" (T3)

One teacher's approach to ignoring negative comments reflects a strong sense of self-efficacy and personal security, suggesting that confidence in one's professional actions can shield against the demoralizing effects of external negativity. Additionally, the motivational drive that arises from overcoming societal misunderstandings and underestimations of the ALS program shows how negative perceptions can be transformed into a constructive force, reinforcing commitment and proving the program's value.

In their study to evaluate the implementation landscape of the ALS Program in Dapitan City, Philippines, Abad and Galleto (2020) emphasized the critical need for teachers to cultivate a positive attitude, engage in best practices, and stay informed about global trends to guide their students effectively. They argued that these improvements in teacher quality are essential for elevating educational standards overall. These insights indicate that promoting a positive outlook should be a strategic focus in ALS teacher training and support programs to enhance teacher retention and student outcomes. Recognizing and cultivating such coping strategies within the ALS teaching community can lead to more robust educational practices equipped to thrive amid the challenges of diverse and resource-limited settings. This approach supports teachers and fosters a supportive learning environment that prioritizes growth and improvement over criticism and embarrassment.

4.0 Conclusion

The experiences of Alternative Learning System (ALS) teachers paint a vivid picture of dedication amidst challenges. Their roles encompass physical demands, mental fortitude, emotional investment, and social engagement. They tackle various learning strands and prioritize English communication skills, a crucial element for their students. Addressing the themes for challenges requires a multifaceted approach that includes policy adjustments, professional development, and community engagement to support ALS teachers. By focusing on these areas, stakeholders can significantly improve the effectiveness of ALS education, thus contributing positively to the broader goal of eradicating illiteracy and enhancing educational opportunities for all population segments. This endeavor uplifts individuals and strengthens societal structures, making pursuing comprehensive and inclusive education reforms a necessary and noble cause.

ALS teachers demonstrate remarkable coping mechanisms. They build resilience through differentiated instruction and materials, contextualize learning experiences, and invest in personal finances. Their prioritization of core competencies and creative use of assignments ensure continuous learning. Additionally, they maintain a positive outlook, educating others about the program and celebrating student achievements. The research has highlighted significant challenges and inconsistencies in English literacy instruction under the ALS program, which point to the pressing need for targeted interventions. In response, continuous training is proposed for ALS teachers to strategically address these issues by enhancing pedagogical skills specifically tailored to the context of teaching English literacy within the ALS framework. This initiative is expected to improve the instructional capabilities of ALS educators and better cater to their students' diverse educational needs.

5.0 Contributions of Authors

The contributions of each author are as follows: Jonathan P. Francisco, LPT, MAEd, conceptualized and designed the study, conducted data gathering, and analyzed and interpreted the data. Crisanta C. Buri, EdD, assisted with the study's conceptualization and data interpretation and guided throughout the research process.

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Gendered Language in Philippine Newspapers

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Abstract. Print media can influence public perceptions but may also reinforce gender bias through language. Numerous studies have underscored the persistence of linguistic sexism in print publications, highlighting how language choices can reinforce gender stereotypes and inequality. This study investigates gendered language in The Philippine Daily Inquirer, a leading newspaper in the Philippines, to highlight how sexist terms persist in modern print media. The study analyzed the May 2018 issue using quantitative and qualitative content analysis, focusing on terms influenced by Gender Schema Theory and Social Responsibility Theory. Five gendered terms with sexist undertones were identified: "policemen," "businessman," "countrymen," "gunmen," and "ombudsman," with "policemen" being the most common. These terms were grouped into three categories: Generic Masculine, Derogatory, and Pseudo-Masculine expressions, with Generic Masculine terms being the most prevalent. The findings show that print media continues to use sexist language, particularly through Generic Masculine terms. The study suggests a thorough content review in media outlets to remove sexist language and encourage gender-neutral alternatives.

Keywords: Gendered language; Print media; Sexist terms; Generic masculine; Content analysis.

1.0 Introduction

Sexism in print media remains a significant concern due to the language choices that can subtly influence readers' perceptions of gender roles. Newspapers and magazines, as primary sources of information, play a critical role in shaping public understanding of social norms (Shoemaker & Vos, 2023). Despite their importance, these media outlets often use language that perpetuates gender biases, potentially reinforcing harmful stereotypes. For instance, terms like "businessman" or "waitress" and the default use of male pronouns ("he," "him," "his") contribute to gendered language, which Prior (2017) defines as language biased toward one sex or social gender. This study investigates how gendered language in the Philippine Daily Inquirer, a widely circulated national newspaper, may reflect and perpetuate these biases.

Previous studies have highlighted the presence of linguistic sexism in media. Lundberg (2022) identified sexist language in British online newspapers, revealing the overuse of masculine pronouns and unequal name representations. Similarly, Perazzetti (2013) explored sexist language in media texts, emphasizing how gendered job titles and the disproportionate portrayal of men in certain professions can normalize gender inequalities. Despite these insights, there remains a need to examine how these issues manifest in the context of the Philippine print media. By focusing on the language used in the Philippine Daily Inquirer, this study seeks to fill this gap by critically analyzing how such language may affect readers' perceptions and reinforce societal gender stereotypes.

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This study is grounded in two theoretical frameworks: Gender Schema Theory and Social Responsibility Theory. Gender Schema Theory (Bem, 1981) explains how individuals develop cognitive structures, or "schemas," that influence their understanding of gender roles, potentially reinforced by gendered language in media. Social Responsibility Theory (Commission on Freedom of the Press, 1947) highlights the media's duty to provide balanced, inclusive information. When the media fails to use neutral language, it perpetuates stereotypes and violates its responsibility to the public. Through this analysis, the study aims to demonstrate the impact of gendered language in reinforcing stereotypes and assess how this aligns with the media's role in promoting social responsibility.

Theoretically, the study provides empirical evidence supporting the claims of Gender Schema and Social Responsibility Theory in the context of print media. It demonstrates how these theories can be applied to understand the persistence of sexist language in modern publications. Moreover, the study contributes to a more nuanced understanding of linguistic sexism by identifying three distinct categories of sexist terms: Generic Masculine, Derogatory, and Pseudo-Masculine. This categorization offers a more comprehensive framework for analyzing and addressing gender bias in language.

Practically, the study raises awareness about the prevalence of sexist language in print media, prompting journalists, editors, and media companies to be more mindful of their language choices. It can also catalyze advocacy efforts to promote gender-neutral language in the media. Likewise, the findings can inform the development of guidelines and best practices for journalists and editors to avoid using sexist language. This can help to create a more inclusive and equitable media landscape. Therefore, the study's findings contribute to the field by providing empirical evidence to support existing theories, offering a more nuanced understanding of linguistic sexism, raising awareness about the issue, and informing practical guidelines for media practices.

2.0 Methodology

2.1 Research Design

In carrying out the research, descriptive content analysis was used to understand the material from newspaper articles, the primary data source. Content analysis is a research technique that makes replicable and valid inferences by interpreting and coding textual material. Qualitative data can be converted into quantitative data by systematically evaluating texts (e.g., documents, oral communication, and graphics) (Krippendorff, 2013). Through content analysis, the existence of gendered language in the print media is strictly analyzed and modified.

2.2 Sources of Data

The researcher utilized the Philippine Daily Inquirer, a print newspaper, as the primary data source for this study. Four volumes, encompassing all sections and articles published within a week each, were selected from May 2018 for content analysis. A two-step fishbowl sampling method was employed to minimize bias and ensure randomness. First, the 12 months of the year were written on slips of paper, placed in a container, and then randomly drawn to determine the month of May. Second, to identify the specific dates within May, the days of the week were written on slips of paper, placed in a container, and randomly drawn. This process was repeated four times to select one date from each week of the month. This comprehensive sampling approach allowed for a representative selection of data from the Philippine Daily Inquirer, providing a solid foundation for analyzing the use of gendered language within the newspaper.

To ensure the study's validity, the researcher employed two complementary coding approaches: priori coding and emergent coding (Hsieh & Shannon, 2005; Krippendorff, 2013). Priori coding utilized a pre-established coding dictionary based on existing literature and theoretical constructs (Strauss & Corbin, 1998). This provided a foundation for identifying relevant themes. On the other hand, Emergent coding allowed for identifying new themes and categories that emerged directly from the data through multiple readings and iterative analysis. Thus, texts are read several times to identify themes that emerge from the data. Particularly, before the analysis, the researcher determines the sexist terms based on previous knowledge, experience, literature, or theory, which is beneficial for the study. After the gendered languages were identified, their language usage was analyzed, and themes were developed. The themes emerged based on the language usage in the newspaper. The emergent themes were named as categories of the content analysis. Categories are established and generated based on the themes. The gathered terms and language usage were reviewed, modified, and continuously examined. Revisions

were made as necessary, and the categories were tightened to the point that it maximized the mutual exclusivity and exhaustiveness of the study.

The reliability of the study was ensured using the two principles of data collection, namely, the use of multiple sources of evidence and maintaining a chain of evidence. The purpose of multiple sources of evidence (Yin, 2018) is to piece together the various observations made in the studies. The collected evidence must be assimilated with other studies examining the same phenomena. There may be biases within any study, including randomized controlled trials. Indeed, within any study, there may be biases due to study design, problems with the implementation, or interacting factors from other parts of the study, each of which needs to be considered when making any inferences. However, employing multiple sources of evidence allowed for a more comprehensive understanding of the phenomenon under investigation by incorporating diverse perspectives and data points (Denzin, 2017). This approach helped mitigate potential biases in any study design or data collection method (Lincoln & Guba, 1985). In this study, gendered language was carefully drawn from a reliable source and was counterchecked in the other sources for a factual and truthful basis of information. Language usage was carefully analyzed based on the context and scope of the study. Maintaining a chain of evidence is a process for effectively collecting, handling, and preserving evidence. In this study, the content of the newspapers was carefully read and tallied by the researcher, one after the other, to countercheck and validate the number of occurrences and their language usage.

2.3 Data Gathering Procedure

In collecting the data for this study, the researcher underwent the following procedures: First, the researcher searched for the widely used newspaper in the Philippines. Second, the researcher took a cursory look at the newspaper content and ensured that the chosen material (newspaper) contained all the data needed for the study. Third, the researchers finally selected the newspaper (The Philippine Daily Inquirer). Fourth, the researcher began the study and analyzed and interpreted the results. Lastly, the researchers reviewed, verified, and refined the study for finality.

2.4 Data Analysis Procedure

The data analyses in this study were done qualitatively and quantitatively. The qualitative analysis focused on how the gendered languages were used in the newspaper. At the same time, the quantitative method involved tallying the number of gendered languages being gathered. Following the sample of gendered language/terms identified in various kinds of literature, the researcher established the basis and restrictions for identifying the gendered language in the newspaper. The gendered language used in the newspaper was strictly analyzed and carefully understood based on the context and scope of the study. Alternative usage of the gendered language was provided and included in the analysis. The gathered data were presented in tables to show the language usage of the gendered language and its corresponding alternatives.

3.0 Results and Discussion

3.1 Sexist Terms In Philippine Newspapers

The analysis of four volumes from The Philippine Daily Inquirer identified five prevalent gendered terms: policemen/policeman, businessman/businessman, countrymen/gunmen, and ombudsman. While these terms may seem commonplace, they can perpetuate gender bias by assuming the masculine form as the default, referred to as sexist terms. To understand this bias further, we classified these terms based on their linguistic construction and usage.

Table 1. Sexist terms found in the newspaper and their sample language usage

Gendered Language	Section	Frequency	Sample Language Usage
Policeman/Policeman	News	13	All *policemen* are currently under restrictive custody at the QCPD headquarters in Camp policeman Karingal.
Businessman	News	1	The smugglers have long cheated the government. The connivance of smugglers with some customs employees in bringing smuggled vehicles back to smugglers, disguised in legitimate auction proceedings has to stop as well to level the playing field for the legitimate *businessmen*," Lapena said
Countrymen	News	1	A year after the Marawi siege, the government has yet to present a comprehensive plan on how it to intends to rehabilitate the city and assist our *countrymen* there "Trillanes

			said Can Ombudsman Opinion 1 a senior government official who speaks for the president to be so totally naïve?
Ombudsman	Opinion	1	Mr. Duterte's latest volley was in response to question as to what qualities he was looking for in the person who will succeed *ombudsman* Conchita Carpio Morales when she retires in July.
Gunmen/ Gunman	News	10	After shooting De Jesus, the *gunman* casually walked toward Gil Puyat Avenue.

Table 1 shows the different sexist terms in the newspaper and their sample language usage. Five terms were identified in the newspaper: policemen/policeman, gunmen/gunman, businessmen, countrymen, and ombudsman. The term "policemen/policeman" is the most frequently used, appearing thirteen (13) times, particularly in the "news" section. This is followed by the term "gunmen/gunman," which appears ten (10) times. The terms businessmen, ombudsman, and countrymen are rarely used.

It can also be observed that the "News" section of the newspaper contains the highest number of sexist terms compared to other sections. The news section covers a wide range of issues, including both local and international news. The content often focuses on social issues, particularly social security, during local elections. Other topics covered include gender violence, cases of rape, crimes, and other factual issues. As a result, the news section of the newspaper seems more prone to the use of sexist terms, which may be unconsciously written by journalists or editors (Ng, 2007). News articles typically begin with a summary of important events and continue to elaborate on them in subsequent paragraphs. The objective of the initial paragraphs is often to direct readers' attention toward the main subject.

Furthermore, Ng (2007), an Indian journalist and advocate of development journalism, believes journalists on the development desk should critically evaluate all development plans from national and local perspectives. On the other hand, a news report fulfills the minimum criteria for development journalism if it includes at least one of the following points: stresses the process rather than the event, maintains a critical perspective on development plans, emphasizes people's needs, presents a background for development issues, predicts future needs, considers the effect of plans on people, compares the development process to similar processes elsewhere, compares the plan with implemented results, critically surveys stories of success, and points out people's needs (Badii & Gandhi, 2001).

Additionally, the news is a representation in the sense of construction; it is not a value-free reflection of 'facts'...each form of linguistic expression in the text—wording, syntactic options, etc.—has its reason. There are always different ways of saying the same thing, and they are not random, accidental alternatives. Differences in expression carry ideological distinctions and, thus, differences in representation (Gunter, 2000). The news section of the newspaper includes content that interests people as it covers current ideas, events, problems, and other social issues. Based on the analysis of sexist language presented in the newspaper, three categories were identified based on their usage: Generic Masculine Expressions, Derogatory Expressions, and Pseudo-Masculine Expressions.

3.2 Generic Masculine Expressions

Generic masculine terms refer to all humans, using masculine terms such as man, brother, father, etc. The expressions sometimes refer to males and females but end with the word man. The study revealed that generic masculine words/expressions are the most used in the newspaper, occurring fifteen (15) times in the newspaper editions under review. Table 2 shows the generic masculine expressions in the newspaper and the alternatives being used. The term "policemen/ policeman" is the most often used word, and it occurred thirteen (13) times in the news content. The bias terms with the least number of occurrences are countrymen and businessman. The word is used generically in instances where the referent's gender is known and when it is not, irrespective of whether this referent is male or female. An example illustrating the first point is seen in:

"*Eleven policemen from the Quezon City police District (QCPD), including the station commander and the Station Drug Enforcement Unit (SDEU) head, were relieved from their posts on Friday after and arrested drug suspect accused them of extortion. QCPD director Chief Supt, Joselito Esquivel said he had relieved SDEU shift members PO2 Noel Sanchez, PO1's Edward Ramos, Michael Eric Ramirez, Ray John Rodriguez, Gaudencio Escoton Jr., Sepzon Suclad, John Ryan Rodriguez, Denis Eria and Leny Atma*."

Table 2. Generic masculine expressions in the newspaper and its gender-neutral alternative usage

Gendered Language	Sentence used in the Newspaper with Generic Masculine Expressions	Sections of the Newspaper, date, page, Vol.	Gender Neutral Alternative Usage
Policeman	Eleven *policemen* from the Quezon City police District (QCPD)...	News May 5, 2018 p. A7, VOL.33	Eleven *police officers* from the Quezon City police District (QCPD)...
	All *policemen* are currently under restrictive custody at the QCPD headquarters in Camp Karingal.	News May 5, 2018 p. A7, VOL.33	All *police officers* are currently under restrictive custody at the QCPD headquarters in Camp Karingal.
	In a report reaching the Quezon City Police District seven of the nine *policemen* were arrested in an "entrapment operation"	News May 5, 2018 p. A7, VOL.33	In a report reaching the Quezon City Police District seven of the nine *police officers* were arrested in an "entrapment operation"...
	..nephew of Flexis Jefferey Soriano, 40, who said the accused *policemen* had demanded 200, 000 in exchange the liberty of his uncle....	News May 5, 2018 p. A7, VOL.33	..nephew of Flexis Jefferey Soriano, 40, who said the accused *police officers* had demanded 200, 000 in exchange the liberty of his uncle....
	The complainant, accompanied by his lawyer claimed he "delivered" the 200,000 to the accused *policemen* ...	News May 5, 2018 p. A7, VOL.33	The complainant, accompanied by his lawyer claimed he "delivered" the 200,000 to the accused *police officers*...
	Ismael's wife, Rajah Bai was also hurt in the scuffle *policeman* later arrested four suspect.	News May 5, 2018 p. A7, VOL.33	Ismael's wife, Rajah Bai was also hurt in the scuffle *police officer* later arrested four suspect.
	He again repeated his promise that he would not allow single *policeman* or soldier to go to jail...	News May 5, 2018 p. A7, VOL.33	He again repeated his promise that he would not allow single *police officer* or soldier to go to jail...
	"And to all of those criminals out there, to all those rogue *policemen* and all creating hell for us...	News May 5, 2018 p. A7, VOL.33	"And to all of those criminals out there, to all those rogue *police officers* and all creating hell for us...
	...was arrested after selling around ₱ 200,000 worth of illegal drugs to undercover *policemen* on CG Road in Lupang Arenda, Barangay Sta. Ana.	News May 5, 2018 p. A7, VOL.33	...was arrested after selling around ₱ 200,000 worth of illegal drugs to undercover *police officers* on CG Road in Lupang Arenda, Barangay Sta. Ana
	investigators are looking into the possibility the Camp Crame-based *policemen* shot dead in Antipolo City...	News May 5, 2018 p. A7, VOL.33	Investigators are looking into the possibility the Camp Crame-based *police officer* shot dead in Antipolo City...
	The arresting *policemen* proceeded with the arrest...	News May 5, 2018 p. A7, VOL.33	The arresting *police officers* proceeded with the arrest...
	The seven *policemen* had been assigned to the SDEU of Galas for seven months already, Esquivel said.	News May 5, 2018 p. A7, VOL.33	The seven *police officers* the SDEU of Galas for seven months already, Esquivel said.
	... said they were still verifying the affiliations and activities of the accused *policemen*...	News May 5, 2018 p. A7, VOL.33	....said they were still verifying the affiliations and activities of the accused *police officers* ...
	2 *policemen* moonlighting as driver axed.	News May 5, 2018 p. A7, VOL.33	2 *police officers* moonlighting as driver axed.
Businessman	... proceedings has to stop as well to level the playing field for the legitimate *businessmen*," Lapena said.	News May 15,2018 p. A2, VOL. 33	... proceedings has to stop as well to level the playing field for the legitimate *businesspersons*," Lapena said.
Countrymen	...Or, it is his *countrymen* he considers so naïve that they will swallow anything he tells them.	News May 24, 2018 p. A6, VOL. 33	...Or, it is his *compatriot* he considers so naive that they will swallow anything he tells them.

In this example, the term "policemen" is clearly shown even though there is a female involvement (referring to Leny Atma). The generic "man or men" will no doubt go a long way toward making it the sole preserve of men.

"The smugglers have long cheated the government. The connivance of smugglers with some customs employees in bringing smuggled vehicles back to smugglers, disguised in legitimate auction proceedings has to stop as well to level the playing field for the legitimate businessmen," Lapeña said.

Here, the term businessmen were not yet fully identified, though it was used to refer only to men.

A year after the Marawi siege, the government has yet to present a comprehensive plan on how it to intends to rehabilitate the city and assist our countrymen there "Trillanes said, Can a senior government official who speaks for the president to be so totally naïve? Or, it is his countrymen he considers so naive that they will swallow anything he tells them.

In this example, the term countrymen could be generalized or refer only to men. This made an exception for the presence of women.

The result aligned with the foundational work of Tannen (1990) and subsequent explorations by Butler (2004), where she explores how language shapes communication and gender dynamics. She argues that the use of generic masculine terms, like "policemen" or "businessman," reinforces gender stereotypes and potentially marginalizes women. These sexist expressions make women invisible. It may contribute immensely to women's second or unimportant role in many societies. The established words and expressions have come to be seen as discriminating against –women. This may be because they are most likely based on male terminology.

3.3 Derogatory Expressions

This form of sexist language refers to language that undermines, derogates, or marginalizes women and men through adverse naming. It includes writing or saying unpleasant things about someone concerning their gender such that negative opinions can be formed about them. The only derogatory term in the newspaper (The Philippine Daily Inquirer) was "gunmen/ gunman," which appeared ten (10) times. Table 3 shows the Derogatory Expressions in the Newspapers and the alternatives being used. The only derogatory term found in the newspaper is the term gunmen/ gunman, which occurred ten (10) times in the news content of the newspaper. An example illustrating the first point is seen in:

"Special Assistant to the President Christopher "Bong" Go has promised security and justice to the wife of slain broadcast journalist Edmund Sestoso who was shot dead by still unidentified gunmen on April 30 at Barangay Daro."

Table 3. Derogatory expressions in the newspaper and its gender-neutral alternative usage

Gendered Language	Sentence used in the Newspaper with Derogatory Expressions	Sections of the Newspaper, date, page, Vol.	Gender Neutral Alternative Usage
Gunmen / gunman	...Edmund Sestoso who was shot dead by still unidentified *gunmen* on April 30 at Barangay Daro.	News May 5,2018 p.A7. VOL.33	...Edmund Sestoso who was shot dead by still unidentified *gun shooter* on April 30 at Barangay Daro.
	...the *gunman* suddenly fired shots at De Jesus when he got out of the kitchen....	News May 5,2018 p.A7. VOL.33	...the *gun shooter* suddenly fired shots at De Jesus when he got out of the kitchen.
	After shooting De Jesus, the *gunman* casually walked toward Gil Puyat Avenue.	News May 5,2018 p. A7, VOL.33	After shooting De Jesus, the *gun shooter* casually walked toward Gil Puyat Avenue.
	Umayao said that before Shooting down De Jesus the *gunman* even went to the victim's house...	News May 5,2018 p. A7, VOL.33	Umayao said that before shooting down De Jesus the *gun shooter* even went to the victim's house...
	... the *gunman* on a red Kawasaki motor cycle shot at his vehicle along....	News May 5,2018 p.A7, VOL.33	...the *gun shooter* on a red Kawasaki motor cycle shot at his vehicle along ...
	...400,000 had been raised for information leading to the arrest of *gunman*.	News May 5,2018 p.A10, VOL.33	... 400,000 had been raised for information leading to the arrest of *gun shooter.*
	At the height of the siege Marohombsar - known as Abu Dar - escaped with dozens of Maute *gunmen* and has since been active in recruiting new members...	News May 24, 2018 p. A4, VOL.33	At the height of the siege Marohombsar - known as Abu Dar - escaped with dozens of Maute *gun shooter* and has since been active in recruiting new members ...
	The five month campaign to retake Marawi City from the *gunmen* loyal to the Islamic State (IS)...	News May 24, 2016 p. A6, VOL.33	The five month campaign to retake Marawi City from the *gun shooter* loyal to the Islamic State (IS) ...
	...a lone *gunman* on a motorbike in Antipolo City while on his way to Quiapo Church	News May 31, 2018 p. A7, VOL.33	...a lone *gun shooter* on a motorbike in Antipolo City while on his way to Quiapo Church
	Marke de Jesus, 37, died on the spot after he was shot thrice in the body by a lone *gunman* ...	News May 31, 2018 p. A7, VOL.33	Marke de Jesus, 37, died on the spot after he was shot thrice in the body by a lone *gun shooter*.

In this example, the term gunmen being referred to was not yet identified, though it was called "gunmen," which generally refers to men. The use of these expressions is both uncalled for and misleading. This point is better appreciated considering the adjectives used in the expressions. They are unknown (gunmen) yet to be identified (gunmen). Thus, if they are unknown or yet to be identified, then people cannot authoritatively say that they are men, and it would be wrong and unjust to ascribe such criminal acts to men. Experience has shown that women are almost equally involved in crime as men. For example, the U.S. Department of Health and Human Services reports that women are the fastest-growing demographic group in prison (Bureau of Justice Statistics, 2023). According to a Canadian Public Health Agency report, the rate of violent crimes doubled among male youth during the late 1980s and 1990s, while it almost tripled among female youth. Presently, based on the report of Bureau of Justice Statistics (2023) by the end of 2022, there were 87,800 women incarcerated in state or federal facilities, a rise of about 5% from 83,700 at the end of 2021.

According to Gostin, Vanchier, and Pope (2007), "The female prisoner population (in the US) has been rising at a faster rate than the male prisoner population. The overall increase since 1995 for male prisoners is 32 percent and for female prisoners, 53 percent". Moreover, Westmarland (2011) explored the historical and cultural factors that have contributed to the association of criminality with masculinity. It argues that the media often portrays crime in a way that reinforces this association, potentially leading to biased perceptions and law enforcement practices. Likewise, Schneider (2018) examined the various forms of gender bias within the criminal justice system, including the use of gendered language that can influence police investigations and public perceptions of crime. It highlights the importance of using gender-neutral language when referring to criminals to avoid perpetuating stereotypes and potential biases. On the other hand, Richie (2017) explores the intersection of race, gender, and the criminal justice system, emphasizing the increasing rates of incarceration among women, particularly women of color. It challenges the assumption that criminality is solely a male domain.

The social implication of referring to wanted criminals with masculine terms is that the police are constrained by the mindset that the culprits must be men. In their search for the suspects, they are ten times more likely to target men than women. This may be a false trail or red herring since all efforts and energy will be channeled into looking solely for men while the real culprits, who may be women, are at large.

3.4 Pseudo-Masculine Expressions

The term "pseudo-masculine" is an expression that seems to reflect a masculine undertone due to its semantic morphology. Only one Pseudo-Masculine term was found in the newspaper, and it was the term "ombudsman," which only occurred once in the newspaper's content.

Table 4. Pseudo-masculine expressions in the newspaper and its gender-neutral alternative usage

Gendered Language	Sentences used in the Newspaper with Pseudo-Masculine Expressions	Sections of the Newspaper, date, page, Vol.	Gender Neutral Alternative Usage
Ombudsman	..looking for in the person who will succeed *ombudsman* Conchita Carpio Morales when she retires in July.	Opinion May 31,2018 p.A7. VOL.33	...looking for in the person who will Succeed *troubleshooter / regulator* Conchita Carpio Morales when she retires in July.

Table 4 shows the Pseudo-Masculine Expressions found in the newspaper and their alternatives. The term "ombudsman" was used only once in the newspaper content, appearing in the "opinion" section. The usage was as follows:

"Mr. Duterte's latest volley was in response to a question about the qualities he was looking for in the person who will succeed Ombudsman Conchita Carpio Morales when she retires in July."

This example is controversial as to whether the term "ombudsman" (like terms like "human," "female," "woman," etc.) is sexist due to its morphology. Alternatives such as "Public Complaints Commission," "supervisory body," or "regulator" would be more appropriate and safer than "ombudsman." Alternatively, a female ombudsman might prefer to be called an "ombudswoman" (United Nations Multi-Lingual, 2015), with "trouble shooter" as a

neutral term between the two. According to Webster's Dictionary, a "trouble shooter" is an expert in resolving diplomatic or political disputes—a mediator of disputes at an impasse.

However, because "ombudsman" is frequently used by the media and political personalities, many consider it the proper term. In connection to this, Baron, N. S. (2016) highlights the importance of using gender-neutral language to avoid perpetuating implicit biases and to promote inclusivity. Baron argues that terms like "ombudsman" can be perceived as masculine by default and suggests alternatives like "ombudsperson" or simply "ombud" to be more inclusive. Moreover, the American Psychological Association (2021) provides practical recommendations for using inclusive language in writing and communication. It encourages using gender-neutral terms as the default option, especially when referring to individuals whose gender is unknown or irrelevant. Similarly, Baker, P. (2003) emphasizes that language choices can reinforce gender stereotypes and contribute to gender inequalities. He stresses the importance of using gender-neutral language to avoid perpetuating biases.

4.0 Conclusion

The study identified five gendered terms—policemen/policeman, businessman, countrymen, ombudsman, and gunmen/gunman—in the Philippine Daily Inquirer, which were categorized into Generic Masculine expressions, Derogatory expressions, and Pseudo-Masculine expressions. The frequent use of "policemen/policeman," especially in social issue reports, highlights a persistent bias towards masculine terms in the newspaper. This reflects broader societal gender inequalities, with traditional gender roles still strongly influencing media language. The findings suggest that while the number of gendered terms may be limited, their repeated usage perpetuates gender bias in print media. To address these issues, newspapers should thoroughly review their content to minimize gender-biased language and adopt more gender-sensitive terminology. Future research could explore sexist language in other media platforms, such as online news and live broadcasts, to provide a more comprehensive understanding of how gender bias manifests across different forms of media.

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This is single-author research.

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7.0 Conflict of Interest

The author declares no conflicts of interest

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Moderating Effect of Demographic Profile on Employee Engagement and Productivity

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Abstract. This study explores the moderating effect of demographic profile on employee engagement and productivity in Cavite, Philippines. The study focused on the 321 service crews working in the Quick Service Restaurants (QSRs), who were selected through a simple random technique. The findings show that productivity is negatively impacted by physical engagement. This suggests an effect between more customer complaints and less physical engagement. Accuracy and quality are affected by emotional engagement, indicating that a drop in emotional engagement could result in a drop in quality. Other types of engagement, such as trait, behavioral, psychological, and cognitive, do not affect productivity. The results are consistent with earlier studies, emphasizing the role that engagement dimensions, including physical, emotional, cognitive, trait, psychological state, and behavioral, play in raising productivity in the service industry. The study also emphasizes how important demographic characteristics are in determining how engagement and productivity are related. Gender does not significantly attenuate this association; nevertheless, other demographic factors that are important to consider are age, marital status, duration of service, and monthly wage. Theoretical implications imply that, in contrast to conventional wisdom, gender may not significantly impact employee productivity in QSRs. In practical terms, the non-significant gender moderation effect highlights how crucial it is to implement gender-neutral engagement tactics to raise worker productivity and levels of engagement. The study suggests future paths for research and offers useful implications for organizational management.

Keywords: Employee Engagement; Productivity; Psychological state engagement; Quick service restaurant.

1.0 Introduction

Nowadays, studying productivity growth is becoming important. As a result, the social aspect of society's growth is strengthened while the firm can maintain its standing in its sector. A successful business knows that most of the growth is because of hardworking employees with excellent productivity. According to research, there is a connection between organizational involvement levels and engagement. Practices in human resources that emphasize people have shown gains in productivity, satisfaction, and financial performance (Ogbonnaya & Aryee, 2021). Other studies showed that productivity was declining in America: The Bureau of Labor Statistics showed that productivity decreased by 1.8 percent. This caused disturbance for both salaried employees and employers. There is a need to look for resources to help employees to become productive (Daisyme, 2015). Moreover, the main root of employee turnover is that they are paid less. All employees wish to be paid fairly for what they worked for. Also, being paid less commonly affects motivation, job satisfaction, and productivity. The different financial and social variables pose challenges to managing the reward process. Supervisors nowadays

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ought to work hard toward a restaurant's productivity and at the same time, controllable costs should be managed (Essays, 2015).

Employee engagement influences the company's major corporate goals. An inspired workforce also contributes to the business's image improvement, increasing its attraction to hiring candidates (Adams, 2023). Sinclair (2021) asserts that until Kahn introduced the idea of personal engagement, management tended to assume that excellent work resulted from hiring the "right fit" and providing the right rewards. Kahn raised the topic of employee engagement at work through his study, sparking an array of ideas and hypotheses. Kahn's three pillars of engagement have been around for thirty years; are they still applicable today? Undoubtedly, experts are still discussing this matter (Sinclair, 2021). Employee engagement leads to lower attrition rates and training costs since engaged workers are more committed to the company's goals (Frejas et al., 2015).

Despite high levels of perceived employer support for employee progression, just 53% of millennials in the Philippines, a nation with one of the youngest labor forces in the world, feel appropriately compensated (Nicolas, 2018). To investigate the connection between worker engagement and productivity, this study focuses on Quick Service Restaurants (QSRs) in Cavite, notably McDonald's, Jollibee, and KFC. These eating places are quite prevalent and greatly influence the area (Borres et al., 2021). The importance of employee engagement in determining output and organizational success has grown. Comprehending the moderating impact of demographic profiles on employee engagement becomes imperative as organizations endeavor to improve performance and efficiency. The intricate relationship between employee engagement and demographic parameters, including age, gender, and tenure, has been brought to light in recent studies. This relationship affects productivity (Li & Li, 2021; Albrecht & Bakker, 2023).

Numerous productivity factors, alongside physical, emotional, and cognitive engagement, are frequently associated with employee engagement, which play important roles (Bakker et al., 2020). Particularly, emotional engagement has been demonstrated to greatly influence the accuracy and quality of service delivery, whereas physical engagement may affect productivity through higher complaint volumes and inefficiency in operations (Bakker & Demerouti, 2022). How productivity is affected by engagement can be altered by demographic factors. Particularly, age and length of service can influence whether staff perform in their positions and how productive they are (Williams & Anderson, 2022). Designed engagement techniques may boost productivity, as recent systematic reviews have shown the complex interactions between demographic characteristics and engagement levels (Li & Li, 2021).

Different aspects of employee involvement have been linked to productivity in earlier studies. Still, there is a lack of research on the psychological, trait, and behavioral aspects of QSR industry participation (Laake, 2016; Sinclair, 2021). By incorporating these ideas and analyzing their effects on worker productivity in the quick-service restaurant industry, this study seeks to close this gap. This research aims to thoroughly understand employee productivity factors by integrating several theoretical viewpoints. While there is a wealth of literature on employee engagement in general, there is a dearth of empirical research examining the direct effects of targeted employee engagement interventions, modified to the specific challenges faced by QSRs in Cavite, on response to customers' needs, accuracy/quality, time management, performance review, customer complaints, and operating issues while considering the potential moderating effects of demographic variables such as age, gender, marital status, income, and length of service. In doing so, the study hopes to pinpoint tactics that not only immediately lead to increased productivity but also consider the wide range of demographic characteristics of the QSR workforce.

The literature review shows a gap in the study of comprehensive employee engagement dimensions in the setting of quick-service restaurants. Prior research, including that conducted by Lambert, Jones, and Clinton (2021), primarily examined employees' traits and cognitive, emotional, and physical engagement, leaving out other important factors. The study by Lambert et al. (2021) makes a valuable contribution to understanding employee engagement; nevertheless, its breadth is limited since it does not include all engagement dimensions of Macey & Schneider in 2008. Furthermore, traits, psychological states, and behavioral aspects were recognized by Macey and Schneider (2008) as essential elements of employee engagement; nevertheless, there is a paucity of research that fully investigates these dimensions in the context of quick-service restaurants.

Even with these revelations, more localized research is still required, especially in particular contexts like Quick Service Restaurants (QSRs) in the Philippines. Comprehending the variations within these contexts may produce significant insights for theoretical and practical domains. To close this gap and promote more focused engagement tactics and better business results, this study looks at how demographic characteristics in Cavite, Philippines, influence the link between employee engagement and productivity.

2.0 Methodology

2.1 Research Design

In this research, the quantitative method is utilized to ascertain the connection between employee engagement and productivity of quick service restaurants. Employee engagement dimensions such as physical, emotional, cognitive, trait, psychological state, and behavioral engagement are considered independent variables, while employee productivity with the parameters response to customers' needs, accuracy/quality, time management, performance review, customer complaints, and operating issues were classified as the dependent variable.

2.2 Research Participants

The criteria were set: the restaurant should operate for at least two years, and the service crew should work for at least six months and receive their first performance review. The number of service crew per restaurant, which was qualified based on the criteria given by the managers, has a total population of 1,630. With a 5% margin of error and a 95% confidence level, Slovin's formula calculator was employed to calculate the proper number of respondents. It suggested that there be about 321 service crews in the sample.

2.3 Research Instrument

A modified survey instrument from the study conducted by Frejas et al. (2015) was used. The tool was created to collect extensive data on productivity and engagement to guarantee that the measures align with the research goals. The survey questionnaire was pretested with fifteen respondents before the actual data collection. Since it is hard to create a perfect data collection tool, pretesting is the sole method to evaluate and enhance its effectiveness, claim Babonea and Voicu (n.d.). The experts validated the survey questionnaire. The first part of the survey gathered the attributes of the participants. The respondent's age, gender, length of service, and monthly salary were gathered through open-ended questions in the first section of the form. In addition, respondents were asked to select from all the options while providing their gender and marital status. The respondent's identity was safeguarded by not collecting their names. The second part asked the respondents about the details related to their engagement, specifically the physical, emotional, cognitive, trait, psychological state, and behavioral engagement. The managers answered the third part about productivity since they know whether the service crew is productive.

2.4 Data Gathering Procedure

The researcher secured a letter of permission from the QSR manager to survey their respective stores. The standard questionnaires were distributed via messenger to the employees by their manager. The procedure was repeated in other QSR branches. After answering the questionnaire, the researcher collected the data and discussed the results and the study.

2.5 Ethical Considerations

This research acknowledges the significance of appropriately managing, preserving, and processing personal data, such as service crews' profiles, and enforcing tight anonymity and secrecy. It also pledges to abide by all laws and regulations, including the Data Privacy Act 2012. This study is dedicated to safeguarding and maintaining the confidentiality of the personal information gathered by respondents' right to privacy.

3.0 Results and Discussion

3.1 Profile of the Respondents

Table 1 shows the demographic profile of the survey participants. The average age of the service crew of selected cities in Cavite was 25. 118 out of 321 respondents were 15-20 years old, with the highest percentage of 36.8%. 35.5% were 21-25 years old, 17.4 % were 25-30 years old, and 10.3% of the respondents were 30 and above. This means that most of the service crew of selected cities in Cavite were around 15-20 years old. The research carried out by Escoto et al. (2021) shows a youthful workforce because of things like flexible work schedules and chances for entry-level employment.

Table 1. Demographic profile

Characteristic	Frequency	Percentage
Age		
15-20 years old	118	36.76
21-25 years old	114	35.51
26-30 years old	56	17.45
31 and above	33	10.28
Gender		
Male	196	61.06
Female	125	38.94
Marital Status		
Single	83	25.86
Married	238	74.14
Monthly Salary		
1,000-5,000	136	42.37
10,001-15,000	68	21.18
5,001-10,000	117	36.45
Length of Service		
1-2 years	105	32.71
Less than one year	130	40.50
More than two years	86	26.79

Most respondents were female (61.1%), whereas the male respondents accounted for the remaining 38.9%. This means that many of the service crews of selected cities in Cavite were female, the same as the result of the study conducted by De Leon et al. (2022). Also, the result shows that 74.1% of the selected service crew in Cavite were single. This result was supported by the study conducted by Umali et al. (2013), which found that out of 75 respondents, 71 were single, 94.7% of the total respondents. Regarding monthly salary, 136 out of 321 service crew wages range from 1,000-5,000, 117 of them were 5,001- 10,000, and 68 were around 10,001-1,5000. In all these, 42.4% of the service crew's monthly salary was around 1,000-5,000. This is in line with the findings of Allegretto et al. (2013) that fast food gives low salaries to service crew. Regarding the length of service, 130 out of 321 respondents worked at quick service restaurants in less than a year, while 105 of them worked around 1-2 years in service, 86 of them worked for more than two years and above. For example, a study conducted in 2016 by Garcia and Martinez discovered that many of the service staff members in fast-food restaurants had comparatively short employment histories, with many of them holding their jobs for less than a year.

3.2 Employee Engagement

In terms of Physical Engagement

Table 2 shows that the participants continuously put high dedication and effort into their work-related tasks. Overall, they exhibit strong physical engagement in their tasks, highlighting their dedication to delivering excellent results.

Table 2. Descriptives of physical engagement

Indicators	Mean	Interpretation
1. I put everything into my work.	4.31	Very High
2. I give my job my all-out effort.	4.21	Very High
3. I work hard at what I do.	4.35	Very High
4. I give my job my all and try to be successful.	4.34	Very High
5. I put all my effort into finishing my work.	4.32	Very High
6. I put much energy into my work	4.31	Very High
Average	**4.31**	**Very High**

The physical engagement assessment's findings show that they continuously put high dedication and effort into work-related tasks. Overall, they exhibit strong physical engagement in their tasks, highlighting their dedication to delivering excellent results.

In terms of Emotional Engagement

As shown in Table 3, the findings of the emotional engagement assessment show a very high and favorable degree of connection and fulfillment with the participants' work. Their positive feelings about their professional function,

such as being happy with their work and feeling good about their employment, further demonstrate a positive emotional connection to their professional function.

Table 3. Descriptives of emotional engagement

Indicators	Mean	Interpretation
1. I take pride in what I do	4.24	Very High
2. I feel energized at work	4.09	High
3. My work interests me.	4.17	High
4. I am pleased with my work.	4.14	High
5. I have a good feeling about my job.	4.17	High
6. I am enthusiastic about my work	4.17	High
Average	**4.16**	**High**

In terms of Cognitive Engagement

Table 4. Descriptives of cognitive engagement

Indicators	Mean	Interpretation
1. I only have work on my mind when I'm working.	4.13	High
2. I focus a lot on my work when I'm there.	4.11	High
3. I pay much attention to my job when I'm at work.	4.27	Very High
4. I am engrossed in my task while at work.	4.09	High
5. At work, I give my task my full attention.	4.27	Very High
6. I give my job much attention when I'm at work	4.23	Very High
Average	**4.19**	**High**

Table 4 displays data indicating that employees have high to extremely high levels of cognitive engagement, with an average mean score of 4.19. These results imply that quick-service restaurants greatly increase their overall performance and operational efficiency by promoting cognitive engagement. By comprehending the function of demographic attributes as moderating factors, engagement tactics may be further optimized to meet the various needs of employees, thus increasing overall productivity.

In terms of Trait Engagement

Table 5. Descriptives of trait engagement

Indicators	Mean	Interpretation
1. I'm seen as diligent by my coworkers.	4.18	High
2. My manager would describe me as diligent.	3.96	Average
3. I'm seen as ambitious by my friends.	4.08	High
4. I have faith in my skills.	4.26	Very High
5. My colleagues enjoy the creativity I bring to the workplace.	4.14	High
6. I tend to be proactive rather than reactive.	4.13	High
7. I frequently take the initiative to complete a task.	4.18	High
Average	**4.13**	**High**

The results of the trait engagement in Table 5 point to a consistently high degree of favorable traits and attributes connected to the participants' professional attitudes. The manager's description of diligence shows a tiny decline. Still, generally, the impression is one of high trait engagement, indicating that the person has a proactive work ethic and self-confidence and is acknowledged by friends and coworkers for their positive traits.

In terms of Psychological State Engagement

Table 6. Descriptives of psychological state engagement

Indicators	Mean	Interpretation
1. My employment is meaningful to me and has a purpose.	4.39	Very High
2. I'm passionate about what I do.	4.20	High
3. My work motivates me to give it my all.	4.30	Very High
4. While I'm working hard, I feel happy.	4.21	Very High
5. I find the work I do challenging.	4.27	Very High
6. While working, I tend to become irrational.	3.95	High
Average	**4.22**	**Very High**

The psychological state engagement assessment results reveal a remarkably optimistic and purposeful attitude toward work (Table 6). Even with a slight decline in the statement about irrationality, the total psychological state engagement is exceptionally high, indicating a constructive and intentional mentality in the work environment.

In terms of Behavioral Engagement

Table 7. Descriptives of behavioral engagement

Indicators	Mean	Interpretation
1. When I'm working, time goes by quickly.	4.30	Very High
2. I only pay attention to something else while working.	3.78	Average
3. I feel like going to work when I wake up.	4.06	High
4. I can work continuously for a very long time.	4.05	Very High
5. I have a hard time separating myself from my work.	3.90	High
6. I never give up on my work, even when things are not going well.	4.19	High
Average	**4.05**	**High**

Table 7 shows the results of the behavioral engagement survey, which point to a continuously high degree of dedication and involvement in the person's work-related actions. Although the statement regarding multitasking receives a relatively low score, overall behavioral engagement indicates a focused and committed work style that emphasizes a strong dedication to and attention to work-related tasks.

Summary of Employee Engagement Level

Table 8. Summary of employee engagement level

Dimensions	Mean	Interpretation
Physical Engagement	4.31	Very High
Emotional Engagement	4.16	High
Cognitive Engagement	4.19	High
Trait Engagement	4.13	High
Psychological State Engagement	4.22	Very High
Behavioral Engagement	4.05	High
Average	**4.17**	**High**

Table 8 shows the verbal interpretations and mean scores for the several engagement dimensions—physical, emotional, cognitive, trait, psychological state, and behavioral—involved in a person's work-related tasks. "High" is the classification given to the average score obtained from all items (Mills, 2014). These results imply that the employees at the quick service restaurants in Cavite have a solid work ethic, a good outlook, and a well-rounded professional demeanor.

3.3 Productivity

In terms of Response to Customers' Needs

Table 9. Descriptives of response to customers' needs

Indicators	Mean	Interpretation
1. The crew can respond to customers' requests for condiments, assistance in carrying orders, etc.	4.63	Very High
2. The crew immediately attends to the customer's order before doing other tasks.	4.27	Very High
3. The crew is friendly and approachable to customers.	4.49	Very High
Average	**4.46**	**Very High**

The crew's evaluation of how well they respond to customer demands indicates high customer care and attentiveness (see Table 9). These findings show that the crew provides exceptional customer service and responsiveness, demonstrating a proactive, kind, and attentive staff that efficiently meets customers' demands.

In terms of Accuracy and Quality

The crew's accuracy and quality rating indicate high performance and dedication to meeting the restaurant's goals (see Table 10).

Overall, these findings show that the employees achieve excellent standards for precision and caliber and actively help the restaurant reach its larger goals.

Table 10. Descriptives of accuracy/quality

Indicators	Mean	Interpretation
1. The crew contributes towards the achievement of the restaurant's targets.	4.37	Very High
2. The crew gives the customers the right food orders and quality products.	4.28	Very High
3. The crew is careful to prevent wastage.	4.43	Very High
Average	**4.36**	**Very High**

In terms of Time Management

Table 11. Descriptives of time management

Indicators	Mean	Interpretation
1. The crew comes to work on time.	4.40	Very High
2. The crew can give the customers fast service.	4.23	Very High
3. The crew serves the customer on time.	4.32	Very High
Average	**4.32**	**Very High**

The crew's evaluation of their time management demonstrates an exceptional dedication to timely and effective service (see Table 11). This crew excels at providing clients with prompt and effective service, as shown in their overall high score. They also place a high importance on punctuality. The findings indicate that a punctual and well-organized staff enhances patrons' dining experiences.

In terms of Performance Review

Table 12. Descriptives of performance review

Indicators	Mean	Interpretation
1. The crew passed the employee performance review.	4.47	Very High
2. The crew communicates effectively and enthusiastically.	4.22	Very High
3. The crew performs secondary responsibilities without being told.	4.41	Very High
Average	**4.37**	**Very High**

The crew's performance review scores show high proficiency, proactive task engagement, and communication (see Table 12). The crew's strong performance assessment ratings highlight their proficiency in communication, proactive attitude toward their duties, and overall competency.

In terms of Customer Complaints

Table 13. Descriptives of customer complaints

Indicators	Mean	Interpretation
1. The crew never had customer complaints.	4.27	Very High
2. The crew knows the customer recovery process.	4.16	High
3. The crew maintains a positive disposition	4.42	Very High
Average	**4.28**	**Very High**

The crew's evaluation of client complaints shows remarkably high customer satisfaction and effective complaint handling (see Table 13). These findings point to a customer-focused and service-oriented team that not only helps them avoid customer complaints but also manages and resolves problems promptly and courteously.

In terms of Operating Issues

The crew's evaluation of operational issues highlights their exceptional competence and resiliency in trying situations (see Table 14). The crew routinely performs effectively despite encountering various operational obstacles, including machine breakdowns, power outages, and a shortage of raw materials. Overall, the crew's strong performance in the face of operational challenges shows that they are a strong, capable team that successfully negotiates and overcomes challenges to continue producing work of the standard job.

Table 14. Descriptives of operating issues

Indicators	Mean	Interpretation
1. The crew is still performing well even though there are some problems like machine breakdown, power interruption, etc.	4.38	Very High
2. The crew still performs well even when there are times when raw materials are unavailable.	4.17	High
3. The crew still performs well despite absences from his/her colleagues.	4.34	Very High
Average	**4.30**	**Very High**

Summary of Productivity Level

Table 15. Summary of productivity level

Indicators	Mean	Interpretation
Response to customers' needs	4.46	Very High
Accuracy/Quality	4.36	Very High
Time Management	4.32	Very High
Performance Review	4.37	Very High
Customer Complaints	4.28	Very High
Operating Issues	4.30	Very High
Average	**4.35**	**Very High**

The study is supported by Singh (2016), who discusses the significance of employee engagement in driving organizational performance, including productivity outcomes. Alvi et al.'s (2020) study on the hospitality industry further supports consistency between productivity and physical engagement. These standards include handling customer complaints and operating issues, time management, performance reviews, accuracy and quality, and response to customers' needs. It shed light on how various aspects of employee engagement affect overall productivity in quick-service restaurants.

3.4 Effect of Employee Engagement on Productivity

Table 16 demonstrates the effect between productivity and physical engagement. The study shows no discernible effect between physical engagement and overall productivity. Physical engagement is measured by responding to customers' needs, accuracy/quality, time management, performance reviews, customer complaints, and operational concerns. Johnson et al. (2018) looked at physical engagement metrics, including time management and response to customers' needs, while examining the factors affecting productivity in the restaurant industry. Furthermore, Smith and Brown's (2020) study delves into the function of employee engagement in the service sector, illuminating the effect of employee engagement dimensions on productivity. Emotional, cognitive, trait, psychological state engagement, and behavioral engagement show weak effects (around 0) and are not statistically significant. This shows that the effect between these engagement characteristics and production is not linear. The effect between accuracy/quality and emotional engagement is significantly negative (-0.113*) (p-value = 0.044). This suggests that there might be a tendency for accuracy or quality to drop as emotional engagement does.

There is no discernible effect between productivity and cognitive engagement, including customer service, accuracy and quality, time management, performance reviews, handling customer complaints, and operational problems. Martinez and Garcia (2020) found no evidence of a significant effect between cognitive engagement and productivity in the service sector. This is consistent with the findings and raises the possibility that productivity may not be accurately predicted by cognitive engagement of employee engagement. Only in the case of accuracy/quality does trait engagement—which includes meeting customer requests, time management, performance reviews, customer complaints, and operational issues—show a strong effect on productivity. A study by Gramillano et al. (2023) indicated that trait engagement strongly increased accuracy and quality outcomes in fast-food outlets, which aligns with the results and emphasizes the significance of trait engagement in enhancing overall productivity. Only accuracy/quality significantly affects productivity when emotional engagement—which encompasses elements like meeting customer demands, time management, performance reviews, customer complaints, and operational issues—is examined. Consistent with the results, Choo's (2016) study found that emotional engagement substantially impacted productivity, especially in areas of quality and accuracy.

Table 16. Analysis of the effect of employee engagement on productivity

	Coefficient	p-Value	Interpretation	Hypothesis
Physical Engagement	-0.081	0.147	Not Significant	Fail to reject
Response to customers' needs	0.006	0.921	Not Significant	Fail to reject
Accuracy/Quality	-0.080	0.153	Not Significant	Fail to reject
Time Management	-0.010	0.860	Not Significant	Fail to reject
Performance Review	-0.053	0.345	Not Significant	Fail to reject
Customer Complaints	-0.120	0.032	Significant	Reject
Operating Issues	-0.075	0.181	Not Significant	Fail to reject
Emotional Engagement	0.004	0.939	Not Significant	Fail to reject
Response to customers' needs	0.024	0.669	Not Significant	Fail to reject
Accuracy/Quality	-0.113	0.044	Significant	Reject
Time Management	0.043	0.438	Not Significant	Fail to reject
Performance Review	0.005	0.935	Not Significant	Fail to reject
Customer Complaints	-0.045	0.425	Not Significant	Fail to reject
Operating Issues	0.060	0.280	Not Significant	Fail to reject
Cognitive Engagement	0.003	0.959	Not Significant	Fail to reject
Response to customers' needs	0.083	0.137	Not Significant	Fail to reject
Accuracy/Quality	-0.057	0.305	Not Significant	Fail to reject
Time Management	0.048	0.393	Not Significant	Fail to reject
Performance Review	-0.010	0.852	Not Significant	Fail to reject
Customer Complaints	-0.046	0.410	Not Significant	Fail to reject
Customer Complaints	-0.029	0.603	Not Significant	Fail to reject
Operating Issues	0.067	0.230	Not Significant	Fail to reject
Psychological State Engagement	-0.052	0.355	Not Significant	Fail to reject
Response to customers' needs	-0.024	0.665	Not Significant	Fail to reject
Accuracy/Quality	-0.088	0.116	Not Significant	Fail to reject
Time Management	0.010	0.863	Not Significant	Fail to reject
Performance Review	-0.077	0.167	Not Significant	Fail to reject
Customer Complaints	-0.073	0.192	Not Significant	Fail to reject
Operating Issues	-0.050	0.375	Not Significant	Fail to reject
Behavioral Engagement	0.014	0.808	Not Significant	Fail to reject
Response to customers' needs	-0.053	0.346	Not Significant	Fail to reject
Accuracy/Quality	-0.030	0.594	Not Significant	Fail to reject
Time Management	0.036	0.516	Not Significant	Fail to reject
Performance Review	0.033	0.561	Not Significant	Fail to reject
Customer Complaints	-0.013	0.810	Not Significant	Fail to reject
Operating Issues	0.055	0.329	Not Significant	Fail to reject

The discovery that physical engagement has a marginally detrimental influence on productivity—a negative effect that is not statistically significant—corresponds with a study conducted in 2022 by Fan et al. that examined the subtleties of employee engagement and how they affect productivity. Furthermore, Tripathi et al.'s (2021) study examined the effect of productivity and physical engagement in the hospitality sector, which gives context to the results. Research by Bakker and Demerouti (2014), who examined the effect of emotional engagement on job performance, supports the considerable negative link between emotional engagement and accuracy/quality. To support the findings of Islam et al. (2019), they examined the significance of emotional engagement in service quality.

Only in the case of accuracy/quality does trait engagement—which includes meeting customer requests, time management, performance reviews, customer complaints, and operational issues—show a strong effect on productivity. The general productivity of quick service restaurants is positively affected by employees who display specific qualities and accuracy-related features. A study by Gramillano et al. (2023) indicated that trait engagement strongly increased accuracy and quality outcomes in fast-food outlets, which aligns with the results and emphasizes the significance of trait engagement in enhancing overall productivity.

Customer complaints, operational problems, accuracy/quality, time management, performance reviews, and response to customers' needs all point to a lack of significant effect between psychological state engagement and productivity, which raises the possibility that psychological factors are unreliable indicators of output levels in quick-service restaurants. This result is consistent with earlier research by Jones et al. (2018), who discovered no meaningful effect between productivity in the service sector and psychological engagement. Furthermore, in their investigation of the effect of employee engagement on organizational performance, Smith & Brown (2016) found comparable outcomes.

3.5 Moderating Effect of Demographic Profile on Employee Engagement and Productivity

Table 17 shows that physical, emotional, cognitive, personality, psychological state, and behavioral engagement are significant engagement characteristics that demonstrate how important these elements are to improving productivity. This result is consistent with other research highlighting the beneficial relationship between productivity and engagement in the service sector (Alarcon & Ramos, 2014; Gagne & Cummings, 2014). The moderating variables imply that these demographic characteristics affect the link between productivity and engagement. These variables include age, marital status, length of service, and monthly wage. This finding bolsters the hypothesis that individual traits and professional background can affect engagement and, in turn, productivity (Hartog, 2014).

Table 17. Analysis of the moderating effect of demographic profile on employee engagement and productivity

	Coefficient	Std. Err.	z	p-value	Interpretation	Hypothesis
Productivity						
Engagement	-0.026	0.040	-0.650	0.517	Not Significant	Fail to reject
Demographic profile	0.002	0.018	0.110	0.913	Not Significant	Fail to reject
Physical engagement	4.307	0.029	148.2	0.000	Significant	Reject
Emotional engagement	1.215	0.095	12.73	0.000	Significant	Reject
Cognitive engagement	1.196	0.096	12.46	0.000	Significant	Reject
Trait engagement	1.215	0.099	12.27	0.000	Significant	Reject
Psychological engagement	1.193	0.091	13.09	0.000	Significant	Reject
Behavioral engagement	1.105	0.101	10.89	0.000	Significant	Reject
Response to customers' needs	4.461	0.024	184.0	0.000	Significant	Reject
Accuracy/quality	1.114	0.200	5.560	0.000	Significant	Reject
Time management	1.174	0.200	5.870	0.000	Significant	Reject
Performance review	1.227	0.206	5.960	0.000	Significant	Reject
Customer complaints	1.512	0.232	6.520	0.000	Significant	Reject
Operating issues	1.476	0.248	5.950	0.000	Significant	Reject
Age	2.012	0.054	36.93	0.000	Significant	Reject
Gender	0.017	0.037	0.470	0.642	Not Significant	Fail to reject
Marital status	0.315	0.033	9.680	0.000	Significant	Reject
Monthly salary	0.609	0.062	9.870	0.000	Significant	Reject
Length of service	0.620	0.064	9.730	0.000	Significant	Reject

The discovery that gender does not significantly moderate employee engagement and productivity in quick-service restaurants (QSRs) has important ramifications for theory and practice. Given the possibility of gender disparities in workplace dynamics, the lack of a substantial effect could appear unexpected. Still, it is consistent with some recent research indicating that gender may not necessarily affect employee productivity (Kulik & Ryan, 2019). Theoretically, this finding contradicts accepted beliefs regarding the diverse ways gender influences productivity. The lack of significant moderation by gender in the context of employee engagement and productivity suggests that other factors may be more influential in QSR settings, even though previous studies have frequently highlighted gender disparities in various organizational outcomes, such as pay equity and career advancement (Blau & Kahn, 2017). This emphasizes how important it is for researchers to look at other factors that can help explain why there are variations in organizational results connected to gender.

4.0 Conclusion

The research offers insightful information about the complex interactions between various aspects of employee engagement and demographic variables affecting organizational productivity. The results shed light on tactics for maximizing performance in QSRs by revealing substantial connections between age, pay, length of service, and various engagement and productivity parameters. The study highlights the prevalent view that increased productivity directly results from increased employee engagement. It found that, at the customary significance level, none of the engagement dimensions—behavioral, trait, emotional, cognitive, physical, or psychological state—exhibited statistically significant effects on productivity. This implies that factors other than employee engagement may be more crucial for productivity.

5.0 Contributions of Authors

Maria Regina C. Belostrino: Conceptualization, Writing the original draft, Writing review and editing, Writing the analysis, and revising the manuscript.
Renalyn C. Estiller: Conceptualization, Writing review and editing, Writing the analysis, Checking the revision of the manuscript.

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Assessing the Implementation of Republic Act 9184 in the Procurement Stages of Fishery Post-Harvest Infrastructure Facilities in the Philippines

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Abstract. In line with the Philippine government's thrust to reduce post-harvest fish losses, properly implementing Republic Act (RA) 9184 is important for ensuring timely and systematic procurement of government fishery post-harvest infrastructure facilities. This quantitative, descriptive-comparative study analyzes the current implementation of RA 9184 in the procurement of said facilities, focusing on procurement stages: pre-procurement (procurement planning), actual procurement, and post-procurement (procurement monitoring). It also examines differences in the respondents' assessment of procurement stages when grouped according to demographic and professional profiles. The respondents from this study included 70 procurement personnel from fishery-related government agencies, selected through purposive sampling. Survey questionnaires, validated by experts, were administered and collected online via Google Forms and analyzed using descriptive and nonparametric statistical tools. Respondents rated the actual procurement stage as "Fully Implemented," while the pre-procurement (procurement planning) and post-procurement (procurement monitoring) stages were rated as "Moderately Implemented." Differences in perceptions were found based on age and agency affiliation for the pre-procurement (procurement planning) and actual procurement stages and on age, agency affiliation, and roles for the post-procurement (procurement monitoring) stage. The findings recommend creating an action plan focused on establishing a uniform procurement policy, adopting technological improvements, strengthening procurement monitoring, and professionalizing and evaluating procurement personnel to ensure procurement efficiency.

Keywords: Fishery post-harvest infrastructure facilities; Procurement personnel; Procurement stages; Public procurement; Republic Act 9184.

1.0 Introduction

The Philippine fisheries sector plays a vital role in the livelihood of millions of Filipinos. According to the Bureau of Fisheries and Aquatic Resources (BFAR, 2023), the Philippine Statistics Authority (PSA) reported a fish production of approximately 4.34 million metric tons (MT) in 2022. This figure represents a 2.16% increase from 2021 and exceeds the Department of Agriculture's (DA) target by 0.16%. Nearly 2 million Filipino fisherfolks depend on the fisheries industry for their livelihood and foreign exchange earnings, making it a vital contributor to the Philippine economy (Tahiluddin & Terzi, 2021).

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In response to the sector's importance, the Philippine Development Plan 2023–2028 by the National Economic and Development Authority (NEDA) outlined the government's investment in agri-fisheries infrastructure to increase productivity and lessen its adverse environmental effects. Other infrastructures, such as roads, bridges, ports, and airports, are also critical for national economic growth by connecting markets and enabling efficient distribution of goods and services (Gonzales, 2023). For Fiscal Year (FY) 2024, the government has allocated PhP1.510 trillion for public infrastructure, aiming to maintain an annual infrastructure investment at 5–6% of Gross Domestic Product (GDP) from 2023–2028 (Piatos, 2024). Establishing post-harvest infrastructure facilities is essential for supporting the fisheries sector. The BFAR's Comprehensive National Fisheries Industry Development Plan (CNFIDP) 2021–2025 notes that the Philippines has various fish capture facilities, including regional fish port complexes managed by the Philippine Fisheries Development Authority (PFDA), private entities, and local government units (LGUs). However, inadequate fisheries infrastructure has led to 25–40% of fish spoilage, resulting in significant income losses (BFAR, 2023).

To address these issues, President Ferdinand R. Marcos, Jr. prioritized constructing new fish ports across 11 coastal provinces, establishing cold storage facilities, and rehabilitating 20 municipal fish ports. While the international advocacy group Oceana has praised this initiative, they have also pointed out that the policy needs to address the realities faced by artisanal fishermen, who have had to adapt due to the lack of post-harvest services in their communities (Baclig, 2023). To prevent or mitigate lost opportunities brought by post-harvest fish losses, timely and systematic procurement of these infrastructure facilities is needed. The Republic Act (RA) 9184, known as the "Government Procurement Reform Act (GPRA) of 2003," and its Revised Implementing Rules and Regulations (RIRR) govern the procurement process for government projects. The statute aims to provide rules necessary to modernize, standardize, and oversee the Philippine government's procurement procedures (Government Procurement Policy Board–Technical Support Office [GPPB–TSO], 2022). Accordingly, this will ensure fair and efficient public procurement to support the fishery sector's growth and sustainability.

Thus, the study aims to analyze the current implementation of RA 9184 in procuring government fishery post-harvest infrastructure facilities in the Philippines. The analysis will focus on the procurement stages: pre-procurement (procurement planning), actual procurement, and post-procurement (procurement monitoring), and compare the respondents' assessment of the procurement stages when grouped according to demographic and professional profiles. Finally, based on the findings that may be derived, a proposed action plan will be crafted to address deficiencies and enhance the effectiveness of the procurement process.

2.0 Methodology

2.1 Research Design

The study employed a quantitative research design incorporating descriptive and comparative approaches. It aims to statistically assess the current implementation of RA 9184 in the procurement stages of government fishery post-harvest infrastructure facilities in the Philippines and profile procurement personnel using descriptive statistical tools such as mean, frequency, and percentage. In addition, a comparative approach was employed using the Kruskal-Wallis H test, a nonparametric statistical tool, to analyze the statistically significant differences between the implementation of RA 9184 and the procurement personnel profile. A survey, a data collection technique, was used to investigate.

2.2 Research Locale

The research was conducted in the Philippines, focusing on fishery-related agencies involved in procuring government fishery post-harvest infrastructure projects. It will analyze the current implementation of RA 9184 within this context. The study covered the PFDA Central Office (CO), the BFAR CO, and its 15 Regional Fisheries Offices (RFOs), totaling 17 agencies.

2.3 Research Participants

The study employs a purposive sampling technique. Nikolopoulou (2023) described purposive sampling as a non-probability sampling method where respondents are selected following the criteria needed for the sample. The researcher established these specific criteria: (1) these personnel must be current employees of the subject agencies, (2) these employees were incumbent procurement personnel at the time of the survey, and (3) these procurement personnel were tasked to procure government fishery post-harvest infrastructure facilities. There were 70

respondents, comprising the Chairperson, Vice-Chairperson, Members and/or Provisional Members, along with Heads and Members of the Technical Working Group (TWG) for infrastructure projects and the Secretariat, constituting the agencies' Bids and Awards Committee (BAC).

2.4 Research Instrument

The study used a self-made structured survey questionnaire created using Google Forms as the primary research instrument. The questionnaire was designed under the provisions of RA 9184 and its RIRR and GPPB's Agency Procurement Compliance and Performance Indicators (APCPI) tool. It comprised two sections: (1) collecting respondents' profiles—including age, sex, procurement-related training, experience and roles, actual unit assignment, and agency affiliation; and (2) assessing the implementation of RA 9184 in the procurement stages of government fishery post-harvest infrastructure facilities. The extent of implementation was measured using a 5-point Likert Scale. Five procurement experts, composed of procurement personnel from other agencies and GPPB-recognized trainers, validated the questionnaire, and its reliability was confirmed through a Cronbach's Alpha test, which yielded a value of 0.95, indicating excellent internal consistency.

2.5 Data Gathering Procedure

The researcher sought and obtained permission and endorsement from the heads of the PFDA and BFAR agencies by submitting formal request letters that included a survey link and detailed instructions. These requests were initially directed to their respective Records Offices. Upon approval by the heads of agencies, the BAC of BFAR CO forwarded the request to the BFAR RFOs. To ensure the success of data collection, the researcher conducted follow-ups using official contact numbers and email addresses, reinforcing the importance of timely and accurate responses. Google Forms was utilized as the survey platform, ensuring participants answered all required questions before submission. Following data collection, the researcher will systematically organize and summarize all responses. The collected data will then be subjected to accurate statistical analysis and a thorough evaluation within the designated time frame.

2.6 Ethical Considerations

The study strictly adhered to ethical guidelines, ensuring respect for respondents' rights, time, and privacy. The response data from the respondents was handled with utmost confidentiality and in full compliance with RA 10173 or the "Data Privacy Act of 2012." The survey was administered using Google Forms, allowing respondents to complete it conveniently. Participation was voluntary, and respondents were informed that they may decline to answer questions or withdraw from the survey at any time. All collected data were securely stored to safeguard participants' privacy. Furthermore, the researcher maintained recognizing and citing relevant research literature, upholding academic integrity, and acknowledging the contributions of existing studies.

3.0 Results and Discussion

3.1 Profile of the Respondents

Table 1 consolidates the frequency and percentage distribution of various aspects of the respondents' profiles. Out of 70 respondents, in terms of age, 15 respondents (21.43%) are aged 30 years and below, 23 (32.86%) are aged 31 to 40 years, 19 (27.14%) are aged 41 to 50 years, 8 (11.43%) are aged 51 to 60 years, and 5 (7.14%) are aged 61 years and above. This distribution shows that most respondents fall within the 31 to 40 age group. Regarding sex, 45 respondents (64.29%) are female, 24 (34.29%) are male, and 1 (1.45%) prefers not to disclose their gender, indicating a predominance of females among the respondents.

In terms of procurement-related seminars or training, 7 respondents (10.00%) attended none, 46 (65.71%) attended between 1 and 5, 12 (17.14%) attended between 6 and 10, and 5 (7.14%) attended 11 or more, suggesting that most respondents have attended between 1 and 5 seminars or training courses. Concerning years of experience in procurement, 44 respondents (62.86%) have 5 years or less of experience, 15 (21.43%) have 6 to 10 years, and 11 (15.71%) have over 11 years, indicating that a significant portion of respondents have limited experience in procurement. Regarding procurement roles, 33 respondents (47.14%) are in the Secretariat, 9 (12.86%) are in the TWG for Infrastructure projects, 17 (24.29%) are BAC Members/Provisional Members, 3 (4.29%) are BAC Vice Chairpersons, and 8 (11.43%) are BAC Chairpersons. This distribution shows that most respondents are from the Secretariat group.

Table 1. Frequency and percentage distribution of respondents' profile (n=70)

Respondents' Profile	Frequency	Percentage (%)
Age		
61 years old and above	5	7.14
51 to 60 years old	8	11.43
41 to 50 years old	19	27.14
31 to 40 years old	23	32.86
30 years old and below	15	21.43
Sex		
Male	24	34.29
Female	45	64.29
Prefer not to say	1	1.43
Number of seminars or trainings attended related to Procurement Law		
11 and above	5	7.14
6 to 10	12	17.14
1 to 5	46	65.71
0	7	10.00
Years of Experience in Procurement		
11 and above	11	15.71
6 to 10	15	21.43
5 and below	44	62.86
Procurement Roles		
BAC Chairperson	8	11.43
BAC Vice Chairperson	3	4.29
BAC Member/Provisional Member	17	24.29
TWG for Infrastructure projects	9	12.86
Secretariat	33	47.14
Actual Unit Assignment		
Finance Unit	8	11.43
Procurement Unit	15	21.43
IT Unit	1	1.43
Human Resource/Administrative Unit	4	5.71
Engineering Unit	1	1.43
General Services Unit	4	5.71
Legal Unit	1	1.43
Planning Unit	2	2.86
Other Units (Operations, Regulatory, Technical and other Offices)	34	48.57
Agency Affiliation		
PFDA CO	11	15.71
BFAR CO	6	8.57
BFAR Ilocos RFO	6	8.57
BFAR Cagayan Valley RFO	5	7.14
BFAR Central Luzon RFO	1	1.43
BFAR Calabarzon RFO	2	2.86
BFAR Mimaropa RFO	1	1.43
BFAR Bicol RFO	7	10.00
BFAR Western Visayas RFO	6	8.57
BFAR Central Visayas RFO	5	7.14
BFAR Eastern Visayas RFO	1	1.43
BFAR Zamboanga Peninsula RFO	2	2.86
BFAR Northern Mindanao RFO	5	7.14
BFAR Davao RFO	3	4.29
BFAR Soccsksargen RFO	1	1.43
BFAR Caraga RFO	3	4.29
BFAR Cordillera Administrative RFO	5	7.14

As for actual unit assignment, 34 respondents (48.57%) are assigned to Other Units (Operations, Regulatory, Technical, and other Offices), 15 (21.43%) to the Procurement Unit, 8 (11.43%) to the Finance Unit, 4 (5.71%) each to the Human Resource/Administrative and General Services Units, 2 (2.90%) to the Planning Unit and 1 (1.43%) each to the IT, Engineering, and Legal Units. The result indicates that most respondents are assigned to Other Units. Finally, concerning agency affiliation, the PFDA CO has 11 respondents (15.71%). The BFAR CO, Ilocos RFO, and Western Visayas RFO have 6 respondents (8.57%) each. The BFAR Cagayan Valley, Central Visayas, Northern Mindanao, and Cordillera Administrative RFOs have 5 respondents (7.14%) each, while the BFAR Bicol RFO has 7 respondents (10.00%). The remaining affiliations include the BFAR RFOs of Central Luzon, Mimaropa,

Eastern Visayas, and Soccsksargen with 1 respondent (1.43%) each, the BFAR RFOs of Calabarzon and Zamboanga Peninsula with 2 respondents (2.86%) each, and the BFAR RFOs of Davao and Caraga with 3 respondents (4.29%) each, showing that most respondents are affiliated with the PFDA CO.

3.2 Assessment on the Implementation of RA 9184 in the Procurement Stages of Government Fishery Post-Harvest Infrastructure Facilities in the Philippines

In terms of the Pre-Procurement Stage (Procurement Planning)

Table 2. Descriptives of the assessment on the implementation of RA 9184 in terms of the pre-procurement stage (procurement planning)

Indicators	Mean	Interpretation
1. The BAC Secretariat consolidates the Implementing Units' (IUs) Project Procurement Management Plan (PPMP), evaluated by the Budget Office, as per schedule.	4.33	Fully Implemented
2. The Procuring Entity implements the Early Procurement Activities (EPA) Policy.	4.03	Moderately Implemented
3. The BAC has enough TWG and full-time Secretariat members to support procurement activities.	3.89	Moderately Implemented
4. The BAC and/or IUs have guidelines ensuring that infrastructure projects to be procured are not underestimated or overestimated.	4.16	Moderately Implemented
5. The BAC and/or IUs guarantee that the Terms of Reference (TOR) and/or technical specifications of infrastructure projects to be bid out are clear and in order.	4.40	Fully Implemented
6. The BAC ensures that feasibility studies, surveys, designs, and government clearances, including the right-of-way acquisition, if any, are all secured prior to bidding and award of contract.	4.20	Fully Implemented
Grand Mean	**4.17**	**Moderately Implemented**

Legend: "Fully Implemented (4.20 – 5.00)", "Moderately Implemented (3.40 – 4.19)", "Somewhat Implemented (2.60 – 3.39)", "Slightly Implemented (1.80 – 2.59)", "Not Implemented (1.00 – 1.79)"

Table 2 shows the respondents' assessment of RA 9184's implementation in procuring government fishery post-harvest infrastructure facilities during the pre-procurement stage. The consolidation of PPMPs by the BAC Secretariat (Indicator 1), the clarity of TOR and technical specifications (Indicator 5), and the completion of pre-bidding requirements (Indicator 6), have mean scores between 4.20 and 4.40, interpreted as "Fully Implemented." Other indicators have mean scores ranging from 3.89 to 4.16, indicating "Moderately Implemented." These include the implementation of the EPA Policy (Indicator 2), the adequacy of TWG and Secretariat support (Indicator 3), and the existence of guidelines for accurate cost estimates (Indicator 4).

The grand mean is 4.17, with the overall verbal interpretation of "Moderately Implemented." This suggests that while RA 9184 is generally well-implemented at the pre-procurement stage, improvements are needed in consistently applying the EPA Policy, ensuring enough staff to support procurement activities, and minimizing potential inaccuracies in project cost estimates.

These findings align with the recommendations from similar studies. The Department of Budget and Management (DBM) highlights that it is imperative to strengthen procurement processes across the bureaucracy, especially in government entities with high procurement volumes. It recommended that these Procuring Entities assign full-time staff to support BAC operations and other procurement activities. Furthermore, the DBM stresses that adopting the EPA Policy will expedite the procurement process and address issues such as underspending and low agency performance. On the other hand, the study by Iyog (2024) further recommends that the BAC regularly review previous procurement activities to identify areas for improvement and make continuous enhancements to the procurement process.

In terms of Actual Procurement Stage

Table 3 illustrates the respondents' assessment of RA 9184's implementation in procuring government fishery post-harvest infrastructure facilities during the actual procurement stage. The results show that most indicators are "Fully Implemented," with mean scores ranging from 4.26 to 4.77. These include adherence to the Approved Procurement Plan (APP) (Indicator 7), proper posting of the Invitation to Bid (ITB) (Indicator 8), the involvement of observers (Indicator 9), diligent verification of the winning bidder's past performance (Indicator 10), and the adoption of technological advancements (Indicator 12). However, among the indicators, the existence of a procurement complaints system and compliance with procedural requirements (Indicator 11) has a lower mean score of 3.99, interpreted as "Moderately Implemented."

Table 3. Descriptives of the assessment on the implementation of RA 9184 in terms of the actual procurement stage

Indicators	Mean	Interpretation
7. The BAC procures infrastructure projects based on the approved APP.	4.67	Fully Implemented
8. The BAC posts an ITB on the Procuring Entity's official website, PhilGEPS website, and any conspicuous places within the latter's premises.	4.77	Fully Implemented
9. The BAC invites observers like the Commission on Audit (COA), recognized professional groups, and accredited non-government organizations (NGOs) to attend procurement stages, as outlined in the RIRR.	4.54	Fully Implemented
10. The BAC TWG diligently verifies the winning bidder's past performance through its previous and existing clients or customers.	4.36	Fully Implemented
11. The Procuring Entity has an existing procurement complaints system and can comply with procedural requirements.	3.99	Moderately Implemented
12. The BAC adapts technological advancements, such as video conferencing and digital signatures, as appropriate.	4.26	Fully Implemented
Grand Mean	**4.43**	**Fully Implemented**

The grand mean is 4.43, with the overall verbal interpretation of "Fully Implemented." This result reflects a high level of compliance with RA 9184 during the actual procurement stage, with most processes being executed thoroughly. However, the findings suggest there is still potential for improvement, especially in the procurement complaints system and compliance with procedural requirements to guarantee that the law is followed consistently and comprehensively throughout all aspects of actual procurement.

The moderately implemented procurement complaints system and adherence to procedural requirements indicate that, despite the existence of mechanisms, there are difficulties in ensuring their utilization. This is consistent with the findings of Castañeda et al. (2023), whose study emphasizes that while legal provisions exist to prosecute collusion in procurement, establishing such cases often requires evidence beyond circumstantial claims. Furthermore, in the context of public infrastructure, a study by Gutierrez et al. (2019) identifies navigating the regulatory landscape as one of the biggest challenges procurement professionals face. They discover that the sudden implementation of new policies and requirements frequently impacts the bidding process.

In terms of the Post-Procurement Stage (Procurement Monitoring)

Table 4. Descriptives of the assessment on the implementation of RA 9184 in terms of the post-procurement stage (procurement monitoring)

Indicators	Mean	Interpretation
13. The Procuring Entity has a system for regularly evaluating the performance of procurement personnel.	3.73	Moderately Implemented
14. The BAC Secretariat has a system for keeping and maintaining procurement records.	4.30	Fully Implemented
15. The Agency has an established Internal Audit Unit (IAU) performing specialized procurement audits.	3.80	Moderately Implemented
16. An approved Procurement Monitoring Report (PMR), submitted to the GPPB on a semestral basis, is posted on the official website and within the premises of the Procuring Entity.	4.14	Moderately Implemented
17. An ad hoc Committee is created for the assessment of APCPI.	3.31	Somewhat Implemented
18. The Procuring Entity has a mechanism to streamline the approval and review of the procurement process.	3.97	Moderately Implemented
Grand Mean	**3.88**	**Moderately Implemented**

Table 4 presents the respondents' assessment of RA 9184's implementation in procuring government fishery post-harvest infrastructure facilities during the post-procurement stage. The BAC Secretariat's system for keeping and maintaining procurement records (Indicator 14) stands out with the highest mean score of 4.30, verbally interpreted as "Fully Implemented." Other indicators, such as the evaluation of procurement personnel performance (Indicator 13), the establishment of an IAU for specialized procurement audits (Indicator 15), the proper posting of an approved PMR (Indicator 16), and the mechanism to streamline the approval and review of the procurement process (Indicator 18), show mean scores ranging from 3.73 to 4.14, which are interpreted as "Moderately Implemented." Notably, the creation of an ad hoc Committee for APCPI assessment (Indicator 17) has the lowest mean score of 3.31, categorized as "Somewhat Implemented."

The grand mean is 3.88, with the overall verbal interpretation of "Moderately Implemented." The findings suggest that the evaluated agencies effectively manage their record-keeping practices. However, there is potential for

additional refinement and efficiency improvements, such as evaluating procurement personnel performance, establishing IAU for specialized procurement audits, posting an approved PMR, and streamlining the approval and review of the procurement process—moreover, the creation of an ad hoc Committee for purposes of APCPI assessment.

These findings are consistent and further support previous studies. Roy et al. (2023) explore bibliometric analysis to provide valuable perceptions into personnel performance management in the public sector. Their study underscores the importance of performance management systems in improving organizational outcomes through accountability and continuous improvement. Their study further reveals that performance management practices are crucial in shaping organizational performance as they help systematically assess and enhance employee performance. Moreover, Samuels et al. (2024) investigate the impact of internal auditing on public sector procurement. Their findings demonstrate that internal audits ensure legal compliance, prevent corruption and identify inefficiencies. They further stress that regular audits improve procurement performance by fostering transparency, accountability, and better internal controls.

In addition, according to the World Bank et al. (2023), the GPPB-TSO uses data from the PMR and the APCPI to create evidence-based policy recommendations to refine procurement rules and systems. Regularly submitting and publicly posting an approved PMR on a semestral basis plays an essential role in transparency. PMRs and APCPIs are also valuable for identifying inefficiencies and bottlenecks, enabling government agencies to implement corrective actions to improve procurement performance while adhering to privacy regulations to safeguard confidential data.

3.3 Difference in the Assessment of the Implementation of RA 9184 in the Procurement Stages When Grouped by Profile

In terms of the Pre-Procurement Stage (Procurement Planning)

Table 5 exhibits the differences of the respondents' assessment in the pre-procurement stage when grouped according to profile. Using the Kruskal-Wallis H test, significant differences were determined in specific indicators. For agency affiliation, indicator 2—"The Procuring Entity implements the EPA Policy."—and for age, indicator 4—"The BAC and/or IUs have guidelines ensuring that infrastructure projects to be procured are not underestimated or overestimated."—were significant, with p-values of 0.039 and 0.027, respectively, both below $\alpha = 0.05$, leading to the rejection of the null hypothesis. On the other hand, other indicators pertaining to age and agency affiliation were insignificant, with p-values exceeding $\alpha = 0.05$. Additionally, indicators concerning sex, procurement-related seminars or training, years of experience and roles, and actual unit assignments were also insignificant, with p-values greater than $\alpha = 0.05$, indicating failure to reject the null hypothesis.

The results indicate that most pre-procurement indicators are perceived similarly across age groups, with one notable exception, i.e., guidelines on accurate cost estimation, where significant differences emerge. Dimand et al. (2023) stress that age plays a crucial role in procurement performance and is associated with public procurement experts' capacity for creativity and efficient application of standards. Moreover, Ekung et al. (2021) identify factors such as inaccurate cost information as one of the primary contributors to cost overruns in construction projects, emphasizing the importance of meticulous planning in ensuring cost-effective project outcomes in the procurement sector. Interestingly, the study by Bijl (2020) reveals that procurement professionals generally report no gender-based differences in their roles. Likewise, Williams (2024) suggests that while gender considerations are often overlooked in procurement planning in many African countries, there is room for more gender-responsive practices, even without specific mandates.

In addition, the impact of the number of seminars or training attended on the application of procurement law knowledge was not found to have significant effects. This suggests that the practical application of procurement law is not heavily influenced by formal training, at least in the pre-procurement phase. Still, Changalima and Mdee (2022) argue that procurement skills can positively impact organizational performance, while Mebrate and Shumet (2024) highlight the importance of procurement planning and staff competency in improving outcomes. The absence of significant differences across experience levels indicates that procurement practices are applied

consistently, regardless of tenure. This contrasts with the study by Dagohoy et al. (2023), who found that more experienced personnel tend to have better awareness and understanding of procurement planning.

Table 5. Analysis of the differences in the respondents' assessment in the pre-procurement stage when grouped according to profile

Indicators	Profile	p-value	Remarks	Decision
1. The BAC Secretariat consolidates the IUs' PPMP, evaluated by the Budget Office, as per schedule.	Age	0.980	Not Significant	Failed to reject H_o
	Sex	0.626	Not Significant	Failed to reject H_o
	Seminars or training attended	0.674	Not Significant	Failed to reject H_o
	Years of experience	0.552	Not Significant	Failed to reject H_o
	Procurement roles	0.062	Not Significant	Failed to reject H_o
	Actual unit assignment	0.666	Not Significant	Failed to reject H_o
	Agency affiliation	0.089	Not Significant	Failed to reject H_o
2. The Procuring Entity implements the EPA Policy.	Age	0.401	Not Significant	Failed to reject H_o
	Sex	0.839	Not Significant	Failed to reject H_o
	Seminars or training attended	0.317	Not Significant	Failed to reject H_o
	Years of experience	0.167	Not Significant	Failed to reject H_o
	Procurement roles	0.512	Not Significant	Failed to reject H_o
	Actual unit assignment	0.349	Not Significant	Failed to reject H_o
	Agency affiliation	0.039	Significant	Reject H_o
3. The BAC has enough TWG and full-time Secretariat members to support procurement activities.	Age	0.116	Not Significant	Failed to reject H_o
	Sex	0.470	Not Significant	Failed to reject H_o
	Seminars or training attended	0.308	Not Significant	Failed to reject H_o
	Years of experience	0.846	Not Significant	Failed to reject H_o
	Procurement roles	0.201	Not Significant	Failed to reject H_o
	Actual unit assignment	0.400	Not Significant	Failed to reject H_o
	Agency affiliation	0.201	Not Significant	Failed to reject H_o
4. The BAC and/or IUs have guidelines ensuring that infrastructure projects to be procured are not underestimated or overestimated.	Age	0.027	Significant	Reject H_o
	Sex	0.376	Not Significant	Failed to reject H_o
	Seminars or training attended	0.778	Not Significant	Failed to reject H_o
	Years of experience	0.948	Not Significant	Failed to reject H_o
	Procurement roles	0.873	Not Significant	Failed to reject H_o
	Actual unit assignment	0.196	Not Significant	Failed to reject H_o
	Agency affiliation	0.596	Not Significant	Failed to reject H_o
5. The BAC and/or IUs guarantee that the TOR and/or technical specifications of infrastructure projects to be bid out are clear and in order.	Age	0.485	Not Significant	Failed to reject H_o
	Sex	0.697	Not Significant	Failed to reject H_o
	Seminars or training attended	0.708	Not Significant	Failed to reject H_o
	Years of experience	0.981	Not Significant	Failed to reject H_o
	Procurement roles	0.279	Not Significant	Failed to reject H_o
	Actual unit assignment	0.550	Not Significant	Failed to reject H_o
	Agency affiliation	0.168	Not Significant	Failed to reject H_o
6. The BAC ensures that feasibility studies, surveys, designs, and government clearances, including the right-of-way acquisition, if any, are all secured prior to bidding and award of contract.	Age	0.219	Not Significant	Failed to reject H_o
	Sex	0.874	Not Significant	Failed to reject H_o
	Seminars or training attended	0.818	Not Significant	Failed to reject H_o
	Years of experience	0.473	Not Significant	Failed to reject H_o
	Procurement roles	0.740	Not Significant	Failed to reject H_o
	Actual unit assignment	0.341	Not Significant	Failed to reject H_o
	Agency affiliation	0.746	Not Significant	Failed to reject H_o

Note: If the p-value is less than or equal to the level of significance ($\alpha = 0.05$), reject the null hypothesis (H_o); otherwise, fail to reject H_o.

Furthermore, this observation among procurement personnel indicates that perceptions remain consistent across different roles. According to Mchopa (2020), as cited by Jama and Mohamud (2024), to uphold and improve this consistency and attain optimal procurement performance, it is essential to guarantee the proficient and successful implementation of procurement duties while upholding good governance and ethical professionalism. Similarly, Castañeda et al. (2023) also emphasize that well-structured procurement organizations enhance process quality, further highlighting the importance of organizational structure.

Regarding perceptions of procurement responsibilities across different unit assignments, the findings reflect the standardized rules mandated by the 2016 RIRR of RA 9184. Personnel across units take their legal responsibilities seriously, indicating a high degree of uniformity in how the rules are applied. However, there are variations in how the EPA Policy is implemented, depending on agency affiliation. This is significant, as Wang et al. (2020) argue that effective procurement involves both fiscal responsibility and strategic management. When done

correctly, strategic implementation, like EPA policies, can enhance procurement efficiency by optimizing resource allocation and accelerating processes.

In terms of Actual Procurement Stage

Table 6. Analysis of the differences in the respondents' assessment in the actual procurement stage when grouped according to profile

Indicators	Profile	p-value	Remarks	Decision
7. The BAC procures infrastructure projects based on the approved APP.	Age	0.338	Not Significant	Failed to reject H_o
	Sex	0.812	Not Significant	Failed to reject H_o
	Seminars or training attended	0.425	Not Significant	Failed to reject H_o
	Years of experience	0.830	Not Significant	Failed to reject H_o
	Procurement roles	0.540	Not Significant	Failed to reject H_o
	Actual unit assignment	0.339	Not Significant	Failed to reject H_o
	Agency affiliation	0.400	Not Significant	Failed to reject H_o
8. The BAC posts an ITB on the Procuring Entity's official website, PhilGEPS website and any conspicuous places within the latter's premises.	Age	0.788	Not Significant	Failed to reject H_o
	Sex	0.142	Not Significant	Failed to reject H_o
	Seminars or training attended	0.196	Not Significant	Failed to reject H_o
	Years of experience	0.302	Not Significant	Failed to reject H_o
	Procurement roles	0.613	Not Significant	Failed to reject H_o
	Actual unit assignment	0.768	Not Significant	Failed to reject H_o
	Agency affiliation	0.154	Not Significant	Failed to reject H_o
9. The BAC invites observers like the COA, recognized professional groups, and accredited NGOs to attend procurement stages, as outlined in the RIRR.	Age	0.811	Not Significant	Failed to reject H_o
	Sex	0.498	Not Significant	Failed to reject H_o
	Seminars or training attended	0.077	Not Significant	Failed to reject H_o
	Years of experience	0.066	Not Significant	Failed to reject H_o
	Procurement roles	0.327	Not Significant	Failed to reject H_o
	Actual unit assignment	0.872	Not Significant	Failed to reject H_o
	Agency affiliation	0.007	Significant	Reject H_o
10. The BAC TWG diligently verifies the winning bidder's past performance through its previous and existing clients or customers.	Age	0.711	Not Significant	Failed to reject H_o
	Sex	0.662	Not Significant	Failed to reject H_o
	Seminars or training attended	0.221	Not Significant	Failed to reject H_o
	Years of experience	0.814	Not Significant	Failed to reject H_o
	Procurement roles	0.320	Not Significant	Failed to reject H_o
	Actual unit assignment	0.698	Not Significant	Failed to reject H_o
	Agency affiliation	0.204	Not Significant	Failed to reject H_o
11. The Procuring Entity has an existing procurement complaints system and can comply with procedural requirements.	Age	0.081	Not Significant	Failed to reject H_o
	Sex	0.985	Not Significant	Failed to reject H_o
	Seminars or training attended	0.183	Not Significant	Failed to reject H_o
	Years of experience	0.262	Not Significant	Failed to reject H_o
	Procurement roles	0.737	Not Significant	Failed to reject H_o
	Actual unit assignment	0.373	Not Significant	Failed to reject H_o
	Agency affiliation	0.125	Not Significant	Failed to reject H_o
12. The BAC adapts technological advancements such as video conferencing and digital signatures, as appropriate.	Age	0.003	Significant	Reject H_o
	Sex	0.713	Not Significant	Failed to reject H_o
	Seminars or training attended	0.692	Not Significant	Failed to reject H_o
	Years of experience	0.988	Not Significant	Failed to reject H_o
	Procurement roles	0.231	Not Significant	Failed to reject H_o
	Actual unit assignment	0.408	Not Significant	Failed to reject H_o
	Agency affiliation	0.018	Significant	Reject H_o

Table 6 illustrates the differences in the respondents' assessment in the actual procurement stage when grouped according to profile. Using the Kruskal-Wallis H test, significant differences were determined in specific indicators. Regarding agency affiliation, indicator 9—"The BAC invites observers like the COA, recognized professional groups, and accredited NGOs to attend procurement stages, as outlined in the RIRR."— was significant with a p-value of 0.007. Likewise, regarding age and agency affiliation, indicator 12—" The BAC adapts technological advancements such as video conferencing and digital signatures, as appropriate."—showed significance, with p-values of 0.003 and 0.018, respectively. These p-values are below $\alpha = 0.05$, leading to the rejection of the null hypothesis. On the other hand, other indicators about age and agency affiliation were insignificant, with p-values exceeding $\alpha = 0.05$. Moreover, indicators related to sex, procurement-related seminars or training, years of experience and roles, and actual unit assignment were also insignificant, with p-values greater than $\alpha = 0.05$, indicating failure to reject the null hypothesis.

The study's findings on procurement processes show several consistencies with existing research. This finding is consistent with previous research. According to Freeman et al. (2020), older individuals may exhibit "technophobia" and struggle with technology because they adapt to it differently and at a slower pace than younger adults. This disparity in technology adoption across age groups could explain the differing perceptions of technological advancements in procurement processes. The results also suggest that there is no perceptual difference based on the respondents' sex in the actual procurement process. The findings align with Bijl's (2020) study, which indicates that any observed differences in procurement are more likely due to individual differences rather than gender.

Moreover, the results indicate that procurement personnel with varying levels of training, such as the number of seminars or training sessions attended, similarly apply their knowledge of procurement law in the actual procurement process. However, the significance of training cannot be overlooked. Adera and Senelwa (2019) emphasize that comprehensive training significantly enhances the implementation of procurement activities in public institutions in Kenya, advocating for more significant investment in employee training to improve skills, competency, and proficiency. Similarly, Dadzie et al. (2024) highlight the importance of training interventions in improving procurement procedures, ultimately enhancing the overall performance of organizations.

The absence of statistical significance suggests that procurement personnel, regardless of their experience level, follow similar practices and procedures in the actual procurement process. Likewise, Dagohoy et al. (2023) highlight that in areas such as post-qualification and contract awarding—both part of the actual procurement process—the relationship between years of service and awareness was not statistically significant. This implies that experience alone does not necessarily improve awareness or proficiency in these specific areas of procurement procedures.

Furthermore, the findings suggest a clear understanding of expectations across procurement roles and unit assignments, specifically in the procurement process. This consensus among procurement personnel indicates consistent perceptions across roles. For instance, the study by Duyan et al. (2020) found that procurement personnel in the Kalinga Provincial Government were highly aware of the provisions of RA 9184 and its RIRR. The greatest awareness was evident in areas such as the functions of the BAC. This reflects that designated procurement personnel, regardless of their unit assignment within the agency, recognize their lawful responsibilities and embody their seriousness with their "jury duty" procurement assignments.

In addition, the results indicate that while certain aspects of the actual procurement stage are consistent across agencies, significant differences exist in how agencies involve observers and implement technological adoptions. Related studies support the need for enhanced transparency and efficiency in procurement, yielding similar outcomes. Castañeda et al. (2023) and Vah (2023) recommend increasing the involvement of observers from Civil Society Groups (CSGs), NGOs, People's Organizations (POs), and watchdogs to improve transparency in the bidding process. On the other hand, Ittelson (2023) highlights that adopting video conferencing has significantly enhanced remote collaboration and operational efficiency, allowing organizations to maintain productivity and adapt to modern work environments. The Cybersecurity and Infrastructure Security Agency (CISA, 2021) also advocates for using digital signatures to enhance the security and integrity of digital transactions, which is crucial for fostering trust and efficiency in modern digital communications. Gabiana et al. (2023) further argue that Procuring Entities should adopt digital approvals to enhance security and accommodate the busy schedules of the approving officers. These studies support the findings by emphasizing the importance of increased observer involvement and technological advancements in promoting transparency and efficiency during the procurement stage.

In terms of the Post-Procurement Stage (Procurement Monitoring)

Table 7 presents the differences in the respondents' assessment in the post-procurement stage when grouped according to profile. The Kruskal-Wallis H test identified significant differences for specific indicators. For age, indicator 13—" The Procuring Entity has a system for regularly evaluating the performance of procurement personnel."—was significant, with a p-value of 0.003. Similarly, for procurement roles, indicator 17—"An ad hoc committee is created for the assessment of APCPI."—was significant, with a p-value of 0.007. Both p-values fall below $\alpha = 0.05$, leading to the rejection of the null hypothesis. Additionally, for agency affiliation, indicator 14—

"The BAC Secretariat has a system for keeping and maintaining procurement records."—and indicator 16—"An approved PMR, submitted to the GPPB on a semestral basis, is posted on the official website and within the premises of the Procuring Entity."—were significant with p-values of 0.042 and 0.009, respectively. These findings also result in rejecting the null hypothesis.

Table 7. Analysis of the differences in the respondents' assessment in the post-procurement stage when grouped according to profile

Indicators	Profile	p-value	Remarks	Decision
13. The Procuring Entity has a system for regularly evaluating the performance of procurement personnel.	Age	0.003	Significant	Reject H_o
	Sex	0.959	Not Significant	Failed to reject H_o
	Seminars or training attended	0.703	Not Significant	Failed to reject H_o
	Years of experience	0.375	Not Significant	Failed to reject H_o
	Procurement roles	0.495	Not Significant	Failed to reject H_o
	Actual unit assignment	0.281	Not Significant	Failed to reject H_o
	Agency affiliation	0.382	Not Significant	Failed to reject H_o
14. The BAC Secretariat has a system for keeping and maintaining procurement records.	Age	0.124	Not Significant	Failed to reject H_o
	Sex	0.654	Not Significant	Failed to reject H_o
	Seminars or training attended	0.795	Not Significant	Failed to reject H_o
	Years of experience	0.689	Not Significant	Failed to reject H_o
	Procurement roles	0.052	Not Significant	Failed to reject H_o
	Actual unit assignment	0.517	Not Significant	Failed to reject H_o
	Agency affiliation	0.042	Significant	Reject H_o
15. The Agency has an established IAU performing specialized procurement audits.	Age	0.258	Not Significant	Failed to reject H_o
	Sex	0.558	Not Significant	Failed to reject H_o
	Seminars or training attended	0.744	Not Significant	Failed to reject H_o
	Years of experience	0.716	Not Significant	Failed to reject H_o
	Procurement roles	0.827	Not Significant	Failed to reject H_o
	Actual unit assignment	0.600	Not Significant	Failed to reject H_o
	Agency affiliation	0.113	Not Significant	Failed to reject H_o
16. An approved PMR, submitted to the GPPB on a semestral basis, is posted on the official website and within the premises of the Procuring Entity.	Age	0.787	Not Significant	Failed to reject H_o
	Sex	0.676	Not Significant	Failed to reject H_o
	Seminars or training attended	0.875	Not Significant	Failed to reject H_o
	Years of experience	0.578	Not Significant	Failed to reject H_o
	Procurement roles	0.130	Not Significant	Failed to reject H_o
	Actual unit assignment	0.763	Not Significant	Failed to reject H_o
	Agency affiliation	0.009	Significant	Reject H_o
17. An ad hoc Committee is created for the assessment of APCPI.	Age	0.291	Not Significant	Failed to reject H_o
	Sex	0.178	Not Significant	Failed to reject H_o
	Seminars or training attended	0.158	Not Significant	Failed to reject H_o
	Years of experience	0.160	Not Significant	Failed to reject H_o
	Procurement roles	0.007	Significant	Reject H_o
	Actual unit assignment	0.424	Not Significant	Failed to reject H_o
	Agency affiliation	0.332	Not Significant	Failed to reject H_o
18. The Procuring Entity has a mechanism to streamline the approval and review of the procurement process.	Age	0.871	Not Significant	Failed to reject H_o
	Sex	0.490	Not Significant	Failed to reject H_o
	Seminars or training attended	0.434	Not Significant	Failed to reject H_o
	Years of experience	0.224	Not Significant	Failed to reject H_o
	Procurement roles	0.125	Not Significant	Failed to reject H_o
	Actual unit assignment	0.344	Not Significant	Failed to reject H_o
	Agency affiliation	0.366	Not Significant	Failed to reject H_o

Contrastingly, indicators related to age, procurement roles, and agency affiliation showed no significant differences, with p-values exceeding $\alpha = 0.05$, indicating failure to reject the null hypothesis. This pattern extended to variables such as sex, procurement-related seminars or training, years of experience, and actual unit assignments, all of which were insignificant. These results suggest that, unlike the significant indicators, these factors do not significantly influence perceptions of the post-procurement process.

The findings reveal that particular demographic and professional profiles impact perceptions of post-procurement processes. For instance, age's impact on procurement personnel's evaluation systems aligns with Dimand et al. (2023), who found that experienced professionals contribute significantly to reliable procurement outcomes due to their nuanced understanding. Roy et al. (2023) support this finding by highlighting the role of performance management systems in enhancing organizational outcomes and accountability. Conversely, gender differences

did not affect post-procurement outcomes, which is consistent with Bijl (2020), who emphasizes that individual differences rather than gender are more influential in procurement results.

The lack of significant differences in procurement knowledge based on seminar or training attendance aligns with the studies by Adera and Senelwa (2019) and Dadzie et al. (2024), suggesting that while training is essential, it may not significantly alter procurement practices. Similarly, the insignificance of years of experience affecting perceptions of post-procurement processes supports the study of Dimand et al. (2023), indicating that experience does not always translate to different perceptions.

Significant differences in the creation of ad hoc committees for APCPI highlight varying views based on procurement roles, which is supported by Prakash and McLennan (2021), emphasizing the importance of APCPI for compliance and performance assessment. The significant differences observed in record-keeping and PMR posting reflect varying agencies' adherence to standards. This finding is supported by the studies by Obura et al. (2022) and the World Bank et al. (2023), stressing the importance of robust records management and transparency in enhancing procurement performance. These results conclude the necessity for targeted improvements in performance management systems, compliance tools, and records management to enhance procurement practices across different agencies.

3.3 Proposed Action Plan

Table 8 presents a detailed action plan to enhance the process of various procurement stages for government fishery post-harvest infrastructure facilities, addressing four main objectives. The first objective is establishing a uniform procurement policy, which involves reviewing current guidelines, sharing best practices, and developing standardized procedures to ensure consistency and transparency across all procurement activities. The second objective focuses on adopting technological improvements, such as e-procurement tools, digital signatures, and videoconferencing, to streamline processes and reduce manual errors. The third objective aims to strengthen procurement monitoring by implementing robust records management systems, forming oversight committees, and conducting continuous improvement programs to maintain compliance with procurement regulations. Lastly, the fourth objective emphasizes the professionalization and evaluation of procurement personnel through regular performance assessments and certification courses to enhance their skills and competencies.

Table 8. Proposed action plan in enhancing the procurement process of government fishery post-harvest infrastructure facilities

Objective(s)	Action Steps	Task Description	Timeline	Intervention/Output
1. Uniform Procurement Policy	Instruction Issuance	The Department of Agriculture's Office of the Undersecretary for Fisheries will issue a directive to HoPEs of fishery-related agencies inviting its BAC representatives for a collaborative intervention about uniform procurement policy.	Immediate	Issuance of Memorandum Order
	Coordination Meetings and Workshops		3.5 months	Internal guidelines for procurement of government fishery post-harvest infrastructure facilities
	- Task 1: Review current procurement guidelines	Ensure that all age groups among procurement personnel are well-represented		
	- Task 2: Address differing perceptions	Focus on EPA, technological advancements, and evaluation of procurement personnel		
	- Task 3: Share best practices	Exchange best practices among different agencies		
	- Task 4: Formulate a uniform procurement policy	Develop a cohesive and standardized policy		
	Draft internal guidelines for procurement of government fishery post-harvest infrastructure facilities.	Approval from the Secretary of Agriculture through the Undersecretary for Fisheries		
2. Adoption of Technological Improvements	Management Support	Top management will allocate the necessary resources in coordination with the IT unit and Budget Office.	Immediate	Issuance of Memorandum Order
	`Training Programs			
	- Task 1: Provide hands-on workshops for videoconferencing tools	Familiarize procurement personnel with videoconferencing tools	1 day	Proficiency in the use of videoconferencing tools

	- Task 2: Facilitate the issuance and use of individual digital signatures	Coordinate with the Department of Information and Communications Technology (DICT) to ensure all procurement personnel have and use digital signatures	1 week	Issuance of individual digital signatures among procurement personnel
3. Strengthen Procurement Monitoring	Procurement Records and PMRs			
	- Task 1: Designate full-time procurement personnel for BAC	The HoPE, through the BAC Chairperson, will assign personnel specifically for BAC-related tasks	Immediate	Issuance of Special Order
	- Task 2: Establish a system for maintaining procurement records and timely preparation, submission, and posting of PMRs	The BAC Secretariat, with the assistance of the IT Unit and Records Section, will develop and implement a record-keeping and reporting system	1 month	Records Management System and Facility for BAC activities
	Ad-Hoc Committee			
	- Task 1: Form an independent ad-hoc committee in each agency	The HoPEs will create their respective ad-hoc committees intended to evaluate self-assessed APCPIs	Immediate	Issuance of Special Order
	Continuous Improvement			
	- Task 1: Conduct periodic reviews and updates of existing procurement procedures to align with the latest GPPB policies	Regularly update procedures to stay current with new policies	Immediate, with quarterly reviews	Improved transparency, compliance with RA 9184, and continuous enhancement of procurement processes
4. Professionalize and Evaluate Procurement Personnel	Performance Evaluation			
	- Task 1: Conduct a Gap Analysis to identify gaps in procurement activities	Create a tool to evaluate the performance of procurement personnel	Immediate	Established Performance Tool
	- Task 2: Address identified gaps through targeted orientation and training	Provide training to address performance gaps	Immediate, with quarterly reviews	Enhanced performance and professional development of procurement personnel
	Certification Course			
	- Task 1: Enrollment in certification courses to professionalize procurement personnel	In coordination with recognized training institutions by GPPB, provide certification courses for continued professional growth among procurement personnel	1 month	Certified Professional Public Procurement Officers

Moreover, Table 9 complements the action plan by outlining a structured framework for monitoring and evaluating its implementation. This framework includes monthly progress reports to track the advancement of each action step, allowing for timely adjustments when necessary. Quarterly review meetings are scheduled to assess the effectiveness of the implemented actions and make any needed modifications to the plan. Additionally, annual performance evaluations are conducted to gauge the overall impact of the procurement activities and update the action plan based on the findings.

Table 9. Monitoring and evaluation of the implementation of the proposed action plan

Action	Frequency	Description
Monthly Progress Reports	Monthly	Track the progress of each action step and adjust as necessary.
Quarterly Review Meetings	Quarterly	Assess the effectiveness of implemented actions and make necessary adjustments.
Annual Performance Evaluation	Annually	Evaluate the overall impact on procurement activities and update the action plan as needed.

4.0 Conclusion

Based on the study's findings, several key conclusions were drawn. The respondents were predominantly female, aged 31 to 40, had attended 1 to 5 procurement seminars or training sessions, and had 5 or fewer years of experience in procurement. Most were from the Secretariat, assigned to Other units (Operations, Regulatory, Technical, and others), and affiliated with PFDA CO. Respondents rated the implementation of RA 9184 as "Fully Implemented" during the actual procurement stage, indicating generally adequate adherence to the public procurement law, rules, and regulations. However, both the pre-procurement (procurement planning) and post-procurement (procurement monitoring) stages were rated as "Moderately Implemented," suggesting some areas needing improvement for more efficient and streamlined processes throughout the procurement cycle. Notably, differences in perceptions were observed based on age and agency affiliation for the pre-procurement

(procurement planning) and actual procurement stages, and on age, agency affiliation, and roles for the post-procurement (procurement monitoring) stage. These variations underscore the need for targeted strategies to address differing views across demographic and professional profiles.

In response to these findings, the study recommends creating an action plan focused on establishing a uniform procurement policy, adopting technological improvements, strengthening procurement monitoring, and professionalizing and evaluating procurement personnel to ensure procurement efficiency. Future research can rely on the study's findings by utilizing advanced statistical tools, such as post-hoc analysis, to further explore the differences in demographic and professional profiles. Additionally, examining procurement performance concerning demographics, capturing perceptions from other key stakeholders like contractors and end-users, and broadening the research to include procurement personnel from other government sectors handling infrastructure projects could provide deeper insights into overall public procurement practices and highlight areas for further enhancement.

5.0 Contributions of Authors

G. Bernabe - expert guidance, finalize research objectives, and conduct descriptive statistical analysis;
J.R. Dante - conceptualization, data collection, analysis, interpretation of results, and study completion.

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7.0 Conflict of Interests

The author declares that there are no conflicts of interest concerning the publication of this paper. All research and findings are presented objectively and without any influence from personal or other external interests.

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From Theory to Practice: The Impact of Communities of Practice Implementation on Out-Of-School Youth

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Abstract. Communities of Practice (CoP) aims to provide services and skills to partner communities while establishing links to communicate learned knowledge to broader groups of people. This study identified and analyzed the impact of communities of practice in Barangay Nagtenga, Sta. Cruz, Ilocos Sur. It used a mixed quantitative and qualitative study approach to evaluate the level of satisfaction of the 18 CoP participants as well as their CoP learning and experience. The data demonstrated high levels of CoP satisfaction, notably with resource speakers and the quality of service provided. Participants shared their learning experiences during the CoP, focusing on knowledge acquisition, skill development, learning transfer to practice, and entrepreneurial management. This study emphasizes the importance of CoPs in empowering marginalized groups and promoting personal and professional development. Recommendations include maintaining and growing CoP initiatives and conducting frequent evaluations to ensure continuous improvement.

Keywords: Communities of Practice; Out-of-school youth

1.0 Introduction

One of the most challenging aspects of today's educational discourse is addressing the gap between theory and implementation. This issue of linking conceptual learning to practical application is most likely noticeable in far-flung places where formal education may not be readily available because of various factors, such as social and economic reasons. This led to an increase in the out-of-school youth population in the country. Communities of Practice (CoP) continue to be a source of interest and investigation in the Philippine educational system. While CoP has been recognized for its ability to promote collaborative learning and knowledge exchange, its effectiveness in meeting the needs of marginalized communities, particularly out-of-school youth, remains unexplored.

Research has conformed to its applicability in the formal academic environment as well as organizational learning, thus leaving little consideration for disadvantaged groups, including the OSY. The work of Wenger (1998) and Lave & Wenger (1991) can be regarded as the work that initially presented the major principles of CoPs; however, this work does not directly explain how those principles can be applied to respond to the challenges that affect marginalized populations effectively. For example, although Porfirio et al. (2022) elaborate on the CoPs regarding

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skills and financial impact breakout, the authors fail to consider the contextual challenges that OSY faces while utilizing the benefits.

Furthermore, the study by Garcia and Hernandez (2019) reveals that CoPs have the potential to revolutionize the education systems of rural areas, the study does not explore the experiences and requirements of the targeted participants, particularly the OSY. This gap is important because the issues experienced by OSY – education dropouts, unemployment, poverty, and social exclusion – call for specific actions that are not aroused in the current literature. Concerning CoPs and improvement of organizational performance, Lesser & Storck (2001), although their concept is not applicable in the community development aiming at OSY.

Jones and Brown (2019) highlighted the development of social capital in marginalized communities, which can explain how the community of practices or CoP can help boost OSY resilience. Despite these studies, their findings do not pay much attention to OSY's educational and entrepreneurial demands and, therefore, do not close the gap in the literature. Also, unlike Vayachuta et al. (2016), who present information on effective lifelong education models for out-of-school children and youth, they fail to cover and analyze how CoPs should be organized to involve the targeted people in practical learning. Consequently, this study seeks to provide empirical findings of the effects of CoPs in the marginalized context of Barangay Nagtenga, OSY in particular, to expand knowledge on how CoPs can be effectively utilized.

Although CoPs have been hailed in diverse learning environments, little is known about their efficiencies for marginalized groups, especially out-of-school youths. Previous research on CoPs has mainly been conducted in formal organizational settings or tertiary learning institutions. There is a dearth of knowledge on how the CoPs can be developed appropriately for OSY. This study sought to establish CoP implementation and its effect in Barangay Nagtenga to achieve the subject cause of developing a learning environment where marginalized groups are empowered. Connecting the findings of the research to the theoretical framework of CoPs, the work not only adds value to the discussion of this concern from the theoretical standpoint but also offers valuable insight for practice on how one of the most threatened groups in today's society can benefit from the creation and use of CoPs in terms of their learning and development.

This study will find how the connection between theory and practice is fundamental in education, especially for marginalized groups who cannot afford formal education. Communities of Practice (CoP) is thus a vibrant tool that adopts theoretical principles into actual competence via communal learning and the sharing of information. According to Wenger (1998), CoPs are groups of people interested in similar fields who learn from each other through dialogue. In approaching knowledge acquisition and transmission, this study shows that CoPs afford the translation of paradigms from practical applicability into use in the lives of OSY. People also learn what to do with the knowledge they have gained due to CoPs and, therefore, cross over the theory-practice format that isolates young people at society's periphery.

Many of the youth in the Philippines are not in school, and societal and economic factors hinder their access to formal education. In El Salvador, for example, 26% of youth are classified as out-of-school youth (OSY), a rapidly growing demographic that represents a loss to the country not only in terms of individual potential well-being but also in terms of bringing danger that can harm community resilience, affecting economic development. Traditional educational institutions leave Many of these groups behind, with few or no opportunities to learn the skills and information required for personal and professional development. This study looks at implementing Communities of Practice (CoP) in Barangay Nagtenga, Sta. Cruz, Ilocos Sur, as a possible option to bridge the gap between theoretical knowledge and practical application, empowering OSY through collaborative learning and skill development.

This study will contribute to academic discourse by filling the gap in the literature on the use of Communities of Practice in underprivileged communities, specifically among out-of-school kids. By providing actual data and insights from participants' experiences in Barangay Nagtenga, the project will improve understanding of how CoPs can be effectively implemented to promote learning, skill development, and community involvement. Practically speaking, this study's findings will provide helpful recommendations for legislators, educators, and community leaders looking to design and implement CoP projects that are responsive to OSY's needs. By

establishing the positive impact of CoPs on personal and professional development, this study will advocate for the extension and sustainability of such programs, ultimately contributing to marginalized youth empowerment and community resilience.

2.0 Methodology

2.1 Research Design

This study used a mixed quantitative and qualitative approach employing descriptive and interview research designs. According to Bhandari (2020), quantitative research gathers and analyzes numerical data. It can discover patterns and averages, make predictions, test causal relationships, and generalize results to larger populations. Qualitative research is a type of research that explores and provides deeper insights into real-world problems (Tenny et al., 2022). Pantaleon (2022) defined descriptive research design as a scientific method that involves observing and describing an existing phenomenon. Thus, the level of CoP satisfaction among the participants was described. Meanwhile, interview research has been defined as conducting in-depth, face-to-face interviews with participants to gain insights from the participants to understand their experience (Hoover, 2021). In this study, an interview was conducted to assess the level of satisfaction and recommendations of the participants in the conducted CoP.

2.2 Research Participants

The study's quantitative phase comprised eighteen (18) out-of-school youth who comprised the Community of Practice (CoP) conducted in Barangay Nagtenga. The approach to selecting subjects for the quantitative phase looks like a non-probability sampling technique called convenience sampling. Recruiting criterion two, which was on the willingness of participants to attend and learn from the CoP meetings, was met. Furthermore, for the qualitative study, a smaller sample of our eighteen participants composed of out-of-school youth was in this process. Instead, five (5) participants were chosen to conduct interviews to collect qualitative information with emphasis on their experiences, level of satisfaction, and recommendations on the matter of CoP. The sampling technique used in the study for the qualitative phase also seems to be different than random; it also seems to be purposive sampling. This technique involves identifying participants based on certain attributes or purposes that align with the study's purpose. Here, the researchers selected participants who would constructively describe their experiences and their learning from the CoP. It would also have been important to choose five participants willing to share their experiences during the research study to get as much qualitative information as possible.

2.3 Research Instrument

The survey questionnaire used in the quantitative part of the study was a descriptive survey instrument aimed at evaluating the satisfaction level of the participants of the Community of Practice (CoP) implemented in Barangay Nagtenga, Sta. Cruz, Ilocos Sur. This questionnaire was designed to seek participants' opinions on the different aspects of the CoP, such as the resource speakers, quality of service, and experience. In the qualitative aspect of the research, a semi-structured interview questionnaire was developed to measure the impact and learning of the participants from the CoP. It employs questions that require the participant to produce elaborate answers while ensuring that the interviews follow a standard format. This question directs the interviews and focuses the issue up for discussion. The researchers then developed related questions and encouraging probes about the identified basic issue.

The validity of the survey instrument was determined through an open discussion with the barangay officials before the actual use of the CoP. This dialogue was intended to ensure that the purpose of the program was understood and that the questions in the survey were appropriate for the participants. Thus, with assistance from local officials, the researchers could increase the validity of the respective survey by adapting the content relative to the community setting and expectations. The reliability of the survey questionnaires was 0.88, while the validity score was 4. 93, thus indicating that the research instruments collected the details and knowledge that would enable the response to the research question. The validity and reliability scores suggest that the instruments used in the research had a face and internal validity and reliability.

2.4 Data Gathering Procedure

The data collected during the interview and basic survey were codified. The narratives were thematically analyzed. According to Bengtsson (2016), thematic analysis is a research that identifies the presence of specific

words, concepts, or ideas within qualitative data. Then, the measurable data were tallied to determine the level of satisfaction of the participants in the CoP.

2.5 Ethical Considerations

To ensure ethical research techniques, various factors were considered. First, the study requested informed permission, in which participants were informed about the goal of the research, their rights, and the expected results. Second, confidentiality was maintained, as participants' names and identifying information were not shared during the study. Third, voluntary involvement was highlighted, with participants having the option to withdraw from the study at any time. Finally, vulnerable participants, particularly those suffering from mental illnesses, were protected. The ethical concerns were applied to preserve participants' rights, ensure the study's integrity, and show respect for the participants.

3.0 Results and Discussion

3.1 Satisfaction of Participants

Establishing Communities of Practice (CoP) in Barangay Nagtenga has been instrumental in bridging the education gap among out-of-school youth, matching theoretical skills with practical applications. This section presents the study's significant findings along with their implications and interpretations based on the data gathered from the written survey and interview among the community of practice participants. Table 1 shows the data on the level of satisfaction of the participants in the CoP conducted at Barangay Nagtenga, Sta. Cruz, Ilocos Sur.

Table 1. Descriptive statistics of the Level of satisfaction of the participants

Indicators	Mean	Descriptive Rating
A. Resource Speakers		
1. The presentation and explanation of the topic was clear.	4.67	Excellent
2. The scope and content of the topic was adequate and useful.	4.78	Excellent
3. The speakers showed mastery of the topic presented and answered queries among the participants.	4.58	Excellent
4. Participation and interactions were encouraged.	4.47	Excellent
5. The speakers showed a willingness to assist the participants.	5.00	Excellent
Sub-mean	**4.70**	**Excellent**
B. Quality of Service		
6. The objectives of the CoP were met.	4.89	Excellent
7. The CoP increased my motivation and interest in product development, entrepreneurship, and education.	4.83	Excellent
8. The venue of the CoP was conducive to learning.	4.23	Excellent
9. The length of the CoP was sufficient.	4.28	Excellent
10. The CoP was relevant to my needs.	4.92	Excellent
Sub-mean	**4.63**	Excellent
Average Mean	**4.67**	**Excellent**

Resource Speakers

The participants rated the resource speakers very positively, with a mean score of 4.70, indicating excellent satisfaction. The speakers were perceived to have clear presentations, mastery of the topics, and willingness to assist participants. This suggests that the speakers effectively delivered the content and engaged with the audience. The study corroborates the study conducted by Wang and Hsu (2015), which states that engaging and knowledgeable speakers positively influence participant satisfaction and knowledge retention in any program. Similarly, Stephenson (2014), studying the relationship between trust and knowledge sharing at the workplace, asserts that knowledgeable speakers are essential to the learning process. As shown in Table 1, areas such as resource speakers, which are largely influenced by the speakers' performance, can significantly improve participant satisfaction and knowledge gained based on average scores.

Quality of Service

The quality of service provided during the CoP also received high ratings, with a mean of 4.63, reflecting excellent satisfaction. Participants felt that the objectives of the CoP were met, it increased their motivation and interest, and the event was relevant to their needs. However, the venue's conducive nature for learning received a slightly lower score, indicating a potential area for improvement. The results confirmed the study by Parasuraman et al. (1988) on service quality in educational institutions, demonstrating that meeting participant needs and expectations leads to higher satisfaction levels and positive outcomes. Additionally, Vayachuta, Ratana-Ubol, and

Soopanyo (2016) investigated the conditions of 'out-of-school' children and youth, underlining the importance of quality services to support lifelong education models. Positive feedback on service quality in the CoP corresponds with the significance of meeting participant needs and expectations to achieve better satisfaction levels.

Overall Satisfaction

The average mean satisfaction level of the participants was 4.67, which falls within the "Excellent" category. This indicates that, on average, participants were highly satisfied with the CoP. The positive feedback on both the resource speakers and the quality of service suggests that the CoP was well-received and beneficial to the participants. Furthermore, effective resource speakers and quality service enhance participant satisfaction, engagement, and learning experiences in community practice programs.

Kimble and Hildreth (2015) talked about the function of Communities of Practice in developing learning environments for educators. Their observations back up the findings about the CoP's applicability to the participants' requirements and the drive it fostered in them to pursue product development and entrepreneurial opportunities. Furthermore, Tenny, Brannan, and Brannan (2022) discussed qualitative research methods, emphasizing the importance of in-depth interviews for understanding participant experiences. The findings allowed for a more in-depth investigation of participant satisfaction and recommendations within the CoP.

3.2 Impact of Communities of Practice

The data gathered were treated using coding and bracketing and were organized into themes. Four themes emerged: 1.) Knowledge Acquisition, 2.) Skill Development, 3.) Transfer of Learning to Practice, and 4.) Entrepreneurial Management.

Theme 1. Knowledge Acquisition:

The participants uniformly stated that their participation in the community of practice enhanced their knowledge. They mentioned the exchange of ideas, information sharing, and exposure to different views as critical components in developing their understanding of how to start a business. Some participants remarked:

"Being part of this community of practice has opened my eyes to new concepts and techniques that I wouldn't have learned alone."

"Joining in this activity made me more conscious and opened me to a lot of discussions, and in return, I was able to share my findings and equip myself with new information that I have never thought I needed. It was like having a treasure that could teach us everything we need."

"The CoP allowed me to embrace new perspectives within a specific subject, understand the context from different angles, and accept new approaches to entrepreneurial practices. I was learning not only new concepts but also discovering new possibilities within myself."

This implies that the CoP is an effective medium where out-of-school youth might engage in the continuation of learning and its expansion. This assertion is affirmed by Stephenson's (2014) study on the influence of trust on the optimization of knowledge sharing among communities of practice. Her research outlines how trust behavior affects the acquisition and sharing of knowledge in collaborative settings among people. Furthermore, these experiences are in line with the elements of KMS proposed by Semertzaki (2011) on learning organization environment in learning organization, where KM is conceptualized as resulting in building a learning organization environment through expertise sharing which is best manifested by one of the participants' statements about being able to understand some course concepts and then applying those ideas in practice. In addition, the narratives are further corroborated by the study conducted by Santos et al. (2020) on strengthening vocational skills within CoPs, highlighting the relevance of CoPs for developing pragmatic education meaningfully in line with actual practice settings.

Theme 2. Skill Development

The interviews revealed that the participants' skills improved significantly as a result of their community of practice involvement. Participants commended the practical learning opportunities provided by the community

of practice, including technical knowledge and soft skills such as communication, sales marketing, and teamwork. Some participant shared:

"Through hands-on workshops and mentorship sessions, I've developed my skills in budget costing and product making, which has been invaluable in my personal development."

"Participation in the activities in the CoP enabled me to enhance my skills."

"Through the CoP, I was able to gain experiences that enabled me to translate the knowledge I gained into real-life lessons and therefore I was also able to gain confidence and competence at managing my future small business effectively."

This finding corresponds with previous research, which has demonstrated that communities of practice are ideal venues for skill development and learning through practical experiences. This emphasizes the value of hands-on learning experiences within communities of practice for skill development. This is in line with Kimble and Hildreth (2015), who investigate the use of communities of practice in educational settings. Their research focuses on how communities of practice help educators build skills and transfer information, providing insights into the communities' broader implications.

The interactive sessions and collaborative projects within the CoP fostered a dynamic learning environment conducive to experimentation, learning from mistakes, and professional growth. This is in line with Kwandrans' (2020) research on motivation for re-engaging out-of-school youth using vocational courses. As such, Kwandrans most probably highlights the role of development-based experiences, which bolsters the skills and competencies of the disadvantaged, and promotes mechanisms of dynamic learning environments that are nurturing. Similarly, the findings regarding the role of CoPs in developing and implementing innovative ideas can be supported by the literature; specifically, McDermott and Archibald (2016) studied the informal network for the skill development and innovation of knowledge workers and found that informal networks have great importance for the skill development and to foster innovation.

Theme 3. Transfer of Learning to Practice

A common theme among participants was the smooth incorporation of community learning into their everyday lives. They provided examples of how they will use the fresh strategies, ideas, and insights learned from CoP discussions and workshops to address real-world difficulties in their own lives. Some participants emphasized the practical importance of the community's learning initiatives, stating:

"The knowledge I've acquired here isn't just theoretical; it's immediately applicable to me as an out-of-school youth, and it would greatly serve as another source of income."

"The CoP was not only an avenue through which one can learn and gain knowledge, but also engage in the application of such knowledge. In response to this, I will apply all the various ideas and strategies proposed in the sessions for the improvement of entrepreneurial goals right now"

"I will apply such new approaches and best practices in practice based on the CoP lessons"

This implies that communities of practice not only improve learning, but also help people apply their knowledge and abilities in real-world situations. This is in accordance with Trayner and Trayner's (2015) research, which emphasizes the necessity of applying learning from communities of practice to real-world settings. Furthermore, it expanded on the idea of learning within communities of practice. Their findings highlight the role of boundaries and identity in structuring learning experiences and knowledge acquisition within communities.

In line with the participants' statements on applying the strategies they have learned in the CoP to advance their business operations, aligns with Bengtsson's (2016) study on how to plan and perform qualitative research with a view of assessing the practical application of the gained knowledge is applicable. This reinforcement supports their capacity to apply the learned theoretical concepts to real-life solutions, it also proves the positive results of CoPs as it assists in bridging the theory-practice divide. Additionally, the participants' perceptions that they acquire increased confidence in the employment of new concepts and approaches in their businesses as they

participate in CoP are also similar to the study by Vayachuta et al. (2016) that focused on the development of lifelong education models for out-of-school children and youths. This reinforcement underlines the value of the practical learning paradigms that CoPs present in improving issue-resolution capabilities and cultivating adaptability, learning, and development.

Theme 4. Entrepreneurial Management

Remarkably, entrepreneurial management emerged as an essential theme among the participants. The participants shared stories about how their participation in the community of practice helped them acquire an entrepreneurial mindset, whether they were running small businesses or pursuing innovative concepts. They commended the CoP for creating an environment that promotes risk-taking, creativity, and strategic thinking. Some participant described the transforming impact on their entrepreneurial journey, as they stated:

"*I've learned how to identify opportunities, manage resources effectively, and adapt to changing market dynamics.*"

"*CoP helped build an entrepreneurial personality within me, it sharpened my abilities to think out of the box, take calculated risks, and grab the opportunities existing in the business environment.*"

"*Engaging in the CoP also provided me with a better understanding of my business and enabled me to develop confidence in the improved provision of services in a rapidly changing environment.*"

By implication, communities of practice can play an important role in developing entrepreneurial skills and mindsets among participants. Mcdermott and Archibald (2010) investigated how firms might use informal networks, such as communities of practice, to drive innovation and entrepreneurial efforts. Their findings emphasized the strategic value of communities of practice in fostering entrepreneurial thinking and knowledge exchange. The participant's positive statements about the CoP boosted confidence to explore change, and readiness to respond to market forces corroborates the assertions of Reyes and Cruz (2019) who noted that creating CoPs nurtures entrepreneurial aptitude among disadvantaged youths. The amenability of peers and mentors to idea generation, and the willingness to try out new strategies or accept prior failure also fits the principles of CoPs and the goal of providing clients with a framework that will help them adapt and learn about the business world.

This is similar to the research conducted by Birkinshaw and Haas (2017), which examined the concept of intelligent failure and its role in encouraging innovation inside businesses. Their perspectives on learning from mistakes within communities of practice are consistent with the participants' experiences of risk-taking and creativity fostered by the community of practice in *Barangay Nagtenga.* The narratives obtained from interviews with participants of the communities of practice in *Barangay Nagtenga, Sta. Cruz, Ilocos Sur*, provides a vivid representation of information enrichment, skill development, practical application, and business empowerment. These themes not only represent the participants' collective experiences, but also highlight the value of community-driven learning and collaboration in promoting personal and professional growth in the local context.

4.0 Conclusion

With the salient findings of the study, it can be concluded that the community of practice in Barangay Nagtenga, Sta. Cruz, Ilocos Sur, was a success that benefited both the participants and the community. Participants in the community of practice in the said area were Very Satisfied with the resource speakers, the quality of service, and overall experience. Furthermore, the community of practice helped participants acquire knowledge, develop skills, apply what they had learned, and run their businesses. Furthermore, the community of practice's practical learning opportunities greatly helped participants' personal and professional development, and positive feedback on entrepreneurial mindset development within the community of practice highlights its role in fostering participant innovation and strategic thinking. As a result, it is highly recommended that community of practice efforts be sustained and expanded in order to reach a larger audience and improve learning experiences. Furthermore, there must be regular evaluations of community of practice programs. Continuously adapt and redefine the program based on the evolving needs and feedback of the participating OSY. Gathering participant feedback and integrating suggestions for improvement can help to guarantee that the learning experiences provided are continuously improved.

5.0 Contributions of Authors

Alfred P. Pantaleon- writing and editing the research article, Chester Allan F. Bautista- editing and enhancing the research article, ZJ G. Villanueva- data analysis of the study, Tricia L. Gundran- writing and revision editing of the research article, and Arrianne Michelle F. Fabro- initiated the conduct of the study and supervising the holistic aspect of the research article.

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7.0 Conflict of Interests

The researchers don't have any conflict of interest to declare.

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Contents

- Compliance with Business Permits and Licensing System Requirements: Effects on Business Performance and Satisfaction Among MSMEs
- Bridging the Skills Gap: Examining the Electronics Technology Students' Competence and Industry Demands
- Metacognitive Awareness and Research Skills Among Senior High School Students
- A Content Analysis on TripAdvisor Reviews of Customer Satisfaction in a Buffet Restaurant
- Statistical Test Proficiency and Data Analysis Literacy through Statistical Package for the Social Sciences (SPSS) Workshop
- The Lived Experiences of Alternative Learning System Teachers in English Literacy Instruction
- Gendered Language in Philippine Newspapers
- Moderating Effect of Demographic Profile on Employee Engagement and Productivity
- Assessing the Implementation of Republic Act 9184 in the Procurement Stages of Fishery Post-Harvest Infrastructure Facilities in the Philippines
- From Theory to Practice: The Impact of Communities of Practice Implementation on Out-Of-School Youth

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