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An Analysis of the Licensure Examination for Teachers Performance of BEED Graduates at Guimaras State University (2019-2023)

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ABSTRACT This study examines the performance of Bachelor of Elementary Education (BEED) graduates from Guimaras State University (GSU) in the Licensure Examination for Teachers (LET) over a five-year period, from 2019 to 2023. The primary objective was to analyze trends in the passing and failure rates as well as average ratings across various subject areas. Data were gathered from secondary records provided by the Professional Regulation Commission and the university's academic records. The study utilized descriptive quantitative research methods to identify patterns in exam performance. The results revealed significant improvements in the pass rates, with a decrease in failure rates from 59.3% in 2019 to 25% in 2023. While the overall passing rate was 63.5%, the passing rate for individual years showed fluctuating performance, reflecting the effectiveness of curriculum changes and instructional support mechanisms. Subject 2 consistently outperformed Subject 1 in average ratings, with a slight decline in 2023. The findings suggest that while GSU's BEED program has made considerable progress, further efforts are needed to enhance performance in Subject 1. The study emphasizes the importance of targeted interventions such as specialized review programs, faculty development, and curriculum adjustments to sustain and improve licensure exam results. The research contributes to understanding how teacher education institutions can improve their licensure outcomes, ultimately preparing future educators for success.

Keywords: average ratings, board ratings, evaluation trends, interventions, passing Rates, student's progress

INTRODUCTION

The Licensure Examination for Teachers (LET) serves as a critical benchmark in determining the qualification and readiness of education graduates to join the teaching profession in the Philippines. As mandated by the Professional Regulation Commission (PRC), the LET assesses the competencies of future teachers in both general education and professional subjects. Given the increasing emphasis on the quality of education in the country, the performance of teacher education graduates in this examination is a vital indicator of the effectiveness of teacher training programs and institutions (Chua, 2023; Gonzales, 2022).

Guimaras State University (GSU) is one of the leading higher education institutions in the province of Guimaras, offering various programs including the Bachelor of Elementary Education (BEED). The performance of BEED graduates in the LET is not only a reflection of individual academic achievement but also serves as an institutional metric of educational quality. Studies have shown that teacher education institutions' pass rates in licensure exams are closely linked to curriculum alignment, faculty qualifications, and the availability of adequate teaching resources (Domingo & Santos, 2023; Arceo et al., 2021).

This study aims to assess the LET performance of BEED graduates from Guimaras State University over a five-year period, from 2019 to 2023. By analyzing trends in pass and failure rates as well as average ratings in different subject areas, this research seeks to provide

insights into the effectiveness of the BEED program and identify areas for improvement. Given the vital role that teachers play in shaping future generations, understanding and improving licensure examination outcomes is crucial to ensuring the delivery of high-quality education in the Philippines.

Objectives of the Study

Generally this study was conducted to determine the Licensure Examination for Teachers Performance of BEED Graduates of Guimaras State University. Specifically, this aims to:

1. To analyze the trend in the passing and failure rates of BEED graduates from Guimaras State University in the Licensure Examination for Teachers (LET) from 2019 to 2023.
2. To assess the average ratings of BEED graduates in the different subject areas of the Licensure Examination for Teachers.
3. Determine the strengths and areas for improvement in the university's teacher education program.

METHODOLOGY

This study utilized a descriptive quantitative research design to analyze the Licensure Examination for Teachers (LET) performance of 213 BEED graduates from Guimaras State University over a five-year period (2019-2023). The study focused on the passing and failing rates and average ratings in the LET subject areas. The respondents of the study comprised 213 BEED graduates from Guimaras State University who took the LET between 2019 and 2023. The primary data source was secondary data obtained from the university's records on LET results requested from the Professional Regulation Commission, including the number of passers and non-passers, and average ratings in subject areas (General Education and Professional Education). Data were grouped by year (2019-2023) and examined for trends. Data were analyzed using descriptive statistics. The pass and fail rates were calculated annually, and average ratings for the LET subject areas were determined. Trends in performance across the five-year period were identified to assess improvements or declines in student performance. Additionally, percentage distribution and mean were used to interpret the results.

RESULTS AND DISCUSSIONS

Licensure Examination Performance

The table 1 provides data on the Licensure Examination for Teachers (LET) performance of Bachelor of Elementary Education (BEED) graduates from Guimaras State University for the years 2019, 2021, 2022, and 2023. It shows the number and percentage of graduates who failed, passed, and the total number of examinees for each year.

From the data, we observe a fluctuating performance over the years. In 2019, 59.3% of graduates failed, with a passing rate of only 40.7%. However, in 2021, there was a notable improvement, as only 37.5% failed, with 62.5% passing. In 2022, the passing rate increased further to 75.9%, while the failure rate dropped to 24.1%. Similarly, in 2023, the failure rate was slightly higher at 25%, but the passing rate remained at a strong 75%.

Overall, the total failure rate stands at 36.5%, while 63.5% of graduates passed the exam across all years.

The data indicates a significant improvement in the passing rate of BEED graduates from Guimaras State University over the four years. The sharp drop in failure rates from 59.3% in 2019 to 25% in 2023 shows positive academic progress. This may suggest that educational interventions, increased student preparation, or a focus on improving the teaching and exam strategies during this period have been effective. The spike in passing rates in 2021 and 2022 points to a potential change in the academic environment, such as better curriculum delivery, revised study programs, or improved support mechanisms for students.

The upward trend in passing rates implies that Guimaras State University has made notable strides in improving the quality of its BEED graduates. This may have a direct impact on the university’s reputation, attracting more students to the program. The data also suggests that further initiatives should be taken to sustain and even further improve the passing rate, such as more rigorous preparatory programs or focused interventions for students at risk of failing. It is important to maintain the momentum of success while addressing the few students still struggling with the exam, ensuring an inclusive approach to student development and licensure preparation.

According to Bugwak (2023) performance analysis, BEED graduates have demonstrated improved performance across various components of the Licensure Examination for Professional Teachers (LEPT) as a consequence of such timely curriculum updates and adherence to established admission standards. This is consistent with findings from Quinco-Cadosales et al. (2023), which suggests that a comprehensive approach to teacher education—focusing on both academic and practical preparation—positively correlates with licensure performance. Moreover, consistent retention policies have been shown to enhance student readiness and integration of practical learning experiences, further elevating pass rates.

Table 1. Licensure Examination for Teachers Performance of BEED Graduates of Guimaras State University.

Year	Failed		Passed		Total	
	f	%	f	%	f	%
2019	54	59.3	37	40.7	91	42.7
2021	3	37.5	5	62.5	8	3.8
2022	14	24.1	44	75.9	58	27.2
2023	14	25.0	42	75.0	56	26.3
Total	85	36.5	128	63.5	213	100.0

Average Ratings in Licensure Examination

The Table 2 presents the average ratings of BEED graduates from Guimaras State University in the Licensure Examination for Teachers (LET) for the years 2019, 2021, 2022, and 2023. The data includes ratings for two subjects, Subject 1 and Subject 2, as well as the overall average score for each year.

From the data, we see that the average ratings in both subjects (Subject 1 and Subject 2) have been relatively consistent over the years. In 2019, Subject 1 had a rating of 76.5, and Subject 2 had a lower rating of 67.9, leading to an overall average of 71.3. In 2021, the ratings for both subjects increased, with Subject 1 at 76.3 and Subject 2 at 79.3, yielding a higher overall average of 78.1. In 2022, Subject 1 saw a slight increase to 77.7, and Subject 2 continued to improve, reaching 78.7, with the overall average rising to 78.3. In 2023, Subject 1 maintained a similar score at 76.7, while Subject 2 slightly decreased to 78.1, resulting in an overall average of 77.6. The total average ratings for all years are 76.8 for Subject 1, 76.0 for Subject 2, and an overall average of 76.3.

The data shows relatively steady performance in the LET across the years. While there is some fluctuation, the ratings in both subjects remain within a narrow range, indicating consistent performance from the graduates of Guimaras State University. Subject 2, however, consistently outperforms Subject 1, with ratings generally higher, particularly in 2021 and 2022. The overall trend suggests that the students' grasp of the material in Subject 2 may be stronger, or the instruction in this area has been more effective in those years. Although the average rating for Subject 1 has not drastically changed, it has remained strong, indicating that the quality of education in this area is stable.

The steady and relatively strong performance in the LET implies that Guimaras State University's BEED program is preparing students adequately for the licensure exam. While the overall averages suggest room for improvement, particularly in raising the performance in Subject 1, the consistency in performance across the years reflects a solid academic foundation. The higher performance in Subject 2 could indicate a potential area of strength for the program, which could be further leveraged to improve overall pass rates and ratings. Moving forward, the university may want to focus on addressing any gaps in Subject 1 to boost the overall performance. Additionally, sustained efforts to maintain or enhance the current performance in Subject 2 could continue to improve the average ratings of future graduates.

Colicol et al., (2022), highlighted that intensive review sessions prior to the LET significantly improve the performance of first-time test takers, suggesting that structured review programs can effectively aid in boosting LET ratings among BEED graduates. Furthermore, the study conducted by Navida (2022) emphasized the role of curriculum relevance and quality teaching methodologies in improving licensure exam results, indicating that institutions focusing on these aspects tend to have stronger performance trends.

Table 2. Licensure Examination for Teachers Average Ratings of BEED Graduates of Guimaras State University

Year	Subject 1	Subject 2	Average
2019	76.5	67.9	71.3
2021	76.3	79.3	78.1
2022	77.7	78.7	78.3
2023	76.7	78.1	77.6
Total	76.8	76.0	76.3

CONCLUSION

This study analyzed the performance of BEED graduates from Guimaras State University in the Licensure Examination for Teachers (LET) over a five-year period, from 2019 to 2023. The data revealed a positive trend in the performance of graduates, with a notable improvement in passing rates from 2019 to 2023. The overall failure rate decreased from 59.3% in 2019 to 25% in 2023, highlighting the effectiveness of the university's educational interventions. The average ratings for both subjects remained relatively steady, with Subject 2 showing consistently higher ratings than Subject 1, suggesting stronger performance in this area. This trend reflects the university's commitment to improving its teacher education program and preparing graduates for the licensure exam.

However, while there is clear progress, there is still room for improvement, particularly in addressing the areas where performance in Subject 1 lags behind. Continuous efforts to refine the curriculum, enhance teaching methodologies, and provide targeted review programs can further elevate the academic preparation of BEED graduates. The study underscores the importance of focusing on both subject-specific knowledge and overall teaching strategies to maintain and build upon the achievements in licensure exam performance.

The findings of this study are consistent with other research, which suggests that comprehensive curriculum updates, quality teaching, and structured review programs play a critical role in improving licensure exam. Furthermore, the results offer a valuable benchmark for other higher education institutions seeking to assess and improve their own teacher education programs.

RECOMMENDATIONS

Based on the findings of this study, it is recommended that Guimaras State University continue to strengthen its teacher education program by focusing on enhancing the performance of BEED graduates in the Licensure Examination for Teachers (LET). Specifically, the university should prioritize the improvement of Subject 1, where performance has been relatively lower compared to Subject 2. This could be achieved through targeted interventions, such as revising the curriculum to address knowledge gaps and offering specialized review sessions before the licensure exam. Additionally, further emphasis should be placed on maintaining and expanding the successful strategies employed in Subject 2, as this area consistently yields higher ratings. Strengthening faculty development programs, integrating practical teaching experiences, and fostering a more supportive learning environment would also be beneficial. Moreover, the university could explore partnerships with external review centers to provide BEED students with more comprehensive exam preparation. By focusing on these areas, Guimaras State University can continue to improve the quality of its graduates, ensuring their readiness for the teaching profession and further enhancing the institution's reputation.

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Exploring the Career Trajectories of Bachelor of Elementary Education Graduates of Guimaras State University: A 2018–2023 Tracer Study

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ABSTRACT This study explored the career trajectories, competencies, and satisfaction levels of Bachelor of Elementary Education (BEED) graduates from Guimaras State University (GSU) between 2018 and 2023. The research aimed to provide valuable insights into the employability of GSU’s BEED graduates, the relevance of the curriculum, and the perceived contributions of the program to skill development. Using a descriptive survey design, the study collected data from 160 respondents, focusing on their employment characteristics, satisfaction with university services, and the skills they found most useful in their current roles. The results revealed that a significant majority (70.6%) of the graduates were employed, with the majority working in teaching positions. The study also found high levels of satisfaction with the university’s services, facilities, and learning environment. Graduates reported that technical and communication skills were the most relevant to their current employment, with problem-solving, critical thinking, and research skills also being highly valued. However, entrepreneurial and human resource skills were less emphasized, suggesting a need for further curricular development in these areas. The findings have important implications for the university’s curriculum design, career services, and support systems, particularly in enhancing licensure exam preparation and providing more opportunities for professional development.

Keywords: effectiveness, employment characteristic, feedback, personal profile, satisfaction level

INTRODUCTION

Tracer studies are essential tools employed by higher education institutions (HEIs) to assess the employability and career trajectories of their graduates. In the context of state universities and colleges (SUCs) in the Philippines, these studies offer vital insights into the effectiveness of academic programs and the preparedness of graduates for the job market.

These studies not only measure employment status but also evaluate the effectiveness of curricula in preparing students for the workforce. For example, the research by Pentang et al. (2022) suggested that tracer studies serve as a basis for curriculum review, allowing educational institutions to adapt and evolve their program offerings based on labor market realities and graduate performance. Similarly, Caingcoy (2020) emphasized the responsibility of HEIs to ensure that their graduates are inherently employable, necessitating constant curriculum evaluation and improvement.

Guimaras State University has demonstrated commendable efforts in conducting tracer studies for various curricular programs, revealing notable findings such as the high employment rate and instructional competence of education graduates. However, a significant concern arises from the absence of a recent, specific tracer study for the Bachelor of Elementary Education (BEED) program offered by the GSU-College of Teacher Education.

This gap impedes the university's understanding of employment characteristics, graduate satisfaction with GSU services, and the perceived contribution of the BEED program to graduates' development. While there have been tracer studies, these have encompassed all programs within the College of Teacher Education.

To address this gap, the researchers conducted a comprehensive study to trace and establish a scientific, documented record of BEED graduates. This information is invaluable for refining the curriculum and programs, particularly in enhancing graduates' employability, promotion opportunities, and their development as outstanding contributors to society.

Statement of the Problem:

This study was conducted to trace the professional situation of the Bachelor in Elementary Education on graduates of the Guimaras State University – College of Teacher Education from 2018 to 2023.

Specifically, this study sought answers to the following questions:

1. What is the personal profile of the graduates as to age, sex, civil status, highest educational attainment, eligibility, year of graduation, membership to professional organization, recognition and awards received, and reasons of enrolling at GSU?
2. What are the employment characteristics of the graduates of the various curricular programs in terms of employment status and promotion of the GSU- BEED graduates?
3. What are the skills and competencies learned in GSU BEED program did you find useful to the current employment?
4. What is the extent to which the BEED program contributed to the development of the graduates' skill?
5. What is the degree of relevance of training received in the BEED program to tasks performed in the current employment?

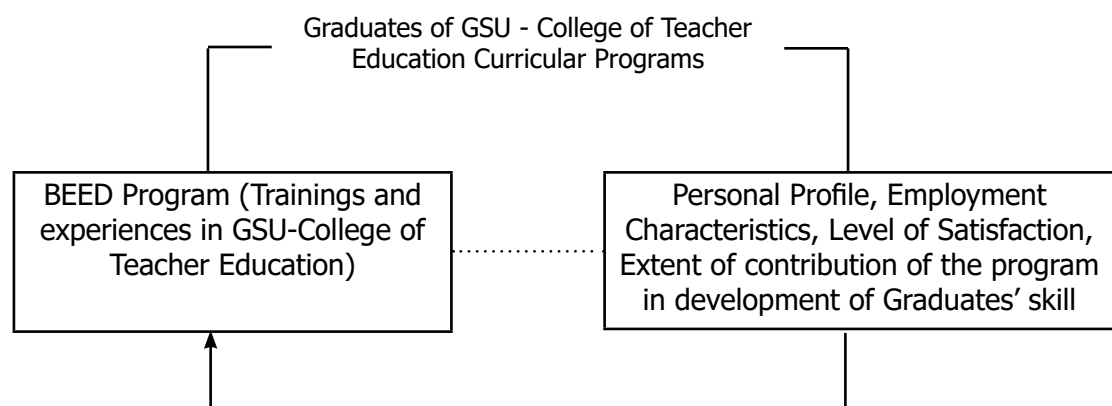


Figure 1: Conceptual Framework of the Study

METHODOLOGY

Research Design

This study utilized a descriptive survey research design to comprehensively examine the personal profiles and employment characteristics of graduates from GSU's College of Teacher Education, with a particular emphasis on Bachelor of Elementary Education (BEED) graduates. Additionally, the research delved into an evaluation of BEED graduates' satisfaction with the university's services, the learning environment, and the available facilities. Furthermore, the study sought to gauge the level of contribution made by the BEED curricular program to the overall development of its graduates. An integral aspect of this investigation involved assessing the effectiveness, relevance, and adequacy of the BEED program by measuring the extent to which graduates had successfully achieved the goals and outcomes specific to their program.

Respondents of the Study

Table 1 presents the distribution of Bachelor of Elementary Education (BEED) graduates from various years, along with pertinent details on the number of graduates, the percentage of those reached, and the subsequent response rates. The data is instrumental in understanding the level of engagement and feedback received from the graduates, providing a comprehensive overview of the study's scope and reach.

In 2018, a total of 57 BEED graduates were documented, with 52 individuals successfully reached, and 43 graduates responded to the survey, yielding a response rate of 82.7%. Similarly, in 2019, 46 graduates were identified, 41 were reached, and 35 responded, resulting in an 85.4% response rate. In 2020, the number of graduates decreased to 19, with 16 reached and 12 responding, yielding a response rate of 75%. Moving to 2022, 40 graduates were identified, 37 were reached, and 31 responded, reflecting an 83.8% response rate. In 2023, the number of graduates was recorded at 52, with 44 reached and 39 responding, resulting in an 88.6% response rate.

The overall total for the BEED graduates across these years stands at 214, with 190 graduates successfully reached, and 160 graduates responded, indicating an 84.2% response rate. The consistency in the response rates across different graduating years contributes to the reliability of the study's findings, allowing for meaningful insights into the perceptions and experiences of BEED graduates from GSU – College of Teacher Education. This comprehensive analysis ensures that the study's outcomes are reflective of a diverse and representative sample of BEED graduates, enhancing the validity of the research findings.

Table 1. Distribution of the BEED Graduates.

Year of Graduation	Total Graduates	Graduates Reached	Graduates Who Responded	Response Percentage
2018	57	52	43	82.7
2019	46	41	35	85.4
2020	19	16	12	0.75
2022	40	37	31	83.8
2023	52	44	39	88.6
TOTAL	214	190	160	84.2

Data Gathering Instrument

The researchers employed a customized graduate survey instrument tailored to align seamlessly with the study's objectives. Drawing inspiration from established tools such as the CHED Standardized Graduate Tracer Study Descriptive Questionnaire, the PNU Graduates Tracer Study Instrument (Gines, 2014), and the Tracer Study of the Graduates of Guimaras State University - Graduate School from 2017–2022 (Magbanua et al., 2022), the questionnaire comprised two distinct parts, each designed with specific purposes. Part 1 was dedicated to collecting essential Biological Data, encompassing personal profile details, employment characteristics, and professional wachievements of the Bachelor of Elementary Education (BEED) graduates. Meanwhile, Part 2 focused on a Retrospective Evaluation of the Program, aiming to assess the graduates' satisfaction with university services, the learning environment, and available facilities. It also sought to gauge the extent to which the BEED program contributed to the development of their skills.

To initiate the research process, the researchers first established acomprehensive directory of graduates slated for inclusion in the study. This undertaking required considerable time and effort to track down and establish contact with the intended participants. Once located, the graduates were instructed to complete a web-based questionnaire. For respondents in the Province of Guimaras encountering difficulties with the digital format, printed questionnaires were offered as an alternative. The completed printed questionnaires were subsequently collected, and the responses were meticulously encoded into a digital spreadsheet. This systematic approach effectively consolidated data obtained from both web-based and printed questionnaires.

The methodical nature of this data collection approach underscores the researchers' commitment to obtaining a comprehensive and diverse set of responses from BEED graduates. By providing flexibility through both digital and printed questionnaire options and ensuring efficient data management, the researchers aimed to minimize potential participation barriers. This, in turn, enhanced the accuracy and reliability of the findings in this study, emphasizing a dedication to methodological rigor and a holistic understanding of the experiences of BEED graduates.

Data Analysis Procedure

The data analysis in this study adheres to a well-defined framework designed to interpret results, utilizing a set of structured scales ranging from 1.00 to 5.00. These scales provide a systematic method for evaluating graduates' responses concerning their educational experiences and perceptions of the university's services and programs, offering a clear understanding of their satisfaction, adequacy, and relevance.

Within the study's "Retrospective Evaluation of the Program," the emphasis is on assessing graduates' satisfaction with university services, the learning environment, and available facilities. This aspect seeks to measure the effectiveness of the educational experience and its alignment with the needs and expectations of BEED graduates. The interpretation scales for satisfaction, adequacy, and relevance serve as a quantitative framework, enabling the assessment of graduates' contentment, the sufficiency of services, and the relevance of the BEED program to their skill development.

The incorporation of frequency counts, percentages, means, and ranking in the data analysis ensures a comprehensive and statistically sound examination of graduates' responses. These analytical methods provide valuable insights into collective perceptions, aiding in the identification of patterns, trends, and areas for improvement.

The interpretation of means using the defined scales guarantees that the findings are not only data-driven but also user-friendly and actionable. Aligning the means with the satisfaction, adequacy, and relevance scales allows the study to precisely categorize and communicate the extent to which graduates are satisfied with university services and how well they perceive these services and programs to meet their needs. This systematic approach to data analysis enhances the validity and reliability of the study's findings, providing valuable insights for the university and its stakeholders to make informed decisions and improvements based on graduates' feedback.

Scale	Satisfaction	Adequacy	Relevance
1.00 – 1.50	Very Low Satisfaction	Not Adequate	Not Relevant
1.51 – 2.50	Low Satisfaction	Somewhat Adequate	Somewhat Relevant
2.51 – 3.50	Moderate Satisfaction	Adequate	Relevant
3.51 – 4.50	High Satisfaction	Very Adequate	Very Relevant
4.51 – 5.00	Very High Satisfaction	Extremely Adequate	Extremely Relevant

RESULTS AND DISCUSSION

Personal Profile of the Respondents

Table 2 presents a comprehensive breakdown of the personal profiles of the respondents, offering valuable insights into the characteristics of the Bachelor of Elementary Education (BEED) graduates who participated in the study. The total sample consists of 160 respondents, providing a robust dataset for analysis.

In terms of age distribution, the majority of respondents (73.1%) are between 21 and 30 years old, highlighting a youthful cohort. A smaller segment (19.4%) falls within the 31 to 40-year age range, while those aged 41 to 50 years account for 7.6%. This age variation enriches the study by incorporating perspectives from different generational groups, ensuring a broader understanding of the graduates' experiences and perceptions. Regarding gender, a substantial majority of respondents are female, comprising 91.2% of the sample, with male respondents representing 8.8%. This gender distribution reflects the general trend within BEED programs, where females typically outnumber males, providing a gendered lens through which to analyze the experiences and career trajectories of BEED graduates.

The civil status of the respondents reveals that 66.2% are single, while 33.8% are married. This demographic information provides context for understanding the social and familial influences that may shape the respondents' professional lives and career aspirations, offering insights into potential differences in professional priorities and life stage.

As for educational attainment, the overwhelming majority of respondents (86.9%) hold a Bachelor's degree, while 13.1% have pursued and completed a Master's degree. This indicates a highly educated sample, with the Bachelor's degree being the predominant level of qualification among the respondents, while a notable subset has advanced their studies, potentially positioning them for higher-level professional opportunities.

The year of graduation breakdown illustrates a spread of graduates across several years, with the largest proportion (26.9%) having graduated in 2018, followed by 2023 (22.1%), 2019 (19.4%), and 2022 (21.9%). A smaller portion (7.5%) graduated in 2020. This distribution allows for an examination of the experiences of BEED graduates across various post-graduation periods, offering insights into the impact of recent educational and professional developments on their career paths.

The data on eligibility reveals that 48.1% of respondents possess teaching eligibility, which represents a significant proportion of the sample. This qualification is indicative of the respondents' readiness to enter the professional teaching workforce, offering an additional dimension to the analysis of their career readiness and aspirations.

Regarding professional involvement, 39.4% of the respondents are members of professional organizations, reflecting active engagement within the educational community. This membership indicates a commitment to professional development and networking, factors that may contribute to career advancement and continued learning. Furthermore, 36.3% of respondents have received awards and recognitions, underscoring

the accomplishments and achievements within this cohort, which may be indicative of their academic excellence or professional contributions.

Demographic information plays a critical role in analyzing factors influencing career paths, professional development, and perceptions of Bachelor of Elementary Education (BEED) graduates. Understanding the socio-demographic profiles of these graduates is foundational in tailoring educational programs and support systems to enhance their professional trajectories. Arteaga-Cedeño et al (2022) underscored the importance of considering teachers’ socio-demographic backgrounds in professional development plans, suggesting that tailored training resources can significantly enhance educational outcomes and career satisfaction. This aligns with findings from Saquin (2023), which outlines the correlation between socio-demographic factors and perceived relevance of education to professional lives among graduates.

Category	f	%
Entire Group	160	100.0
Age		
21 – 30 years old	117	73.1
31 – 40 years old	31	19.4
41 – 50 years old	12	7.6
Sex		
Male	14	8.8
Female	146	91.2
Civil Status		
Single	106	66.2
Married	54	33.8
Educational Attainment		
Bachelor’s Degree	139	86.9
Master’s Degree	21	13.1
Year Graduated		
2018	43	26.9
2019	35	21.9
2020	12	7.5
2022	31	19.4
2023	39	22.1
With Eligibility	77	48.1
Membership in Professional Organizations	63	39.4
Awards and Recognitions	58	36.3

Reasons of Enrolling at Guimaras State University College of Teacher Education

Table 3 presents the reasons cited by respondents for enrolling at Guimaras State University, with the data reflecting a variety of factors influencing their decision to pursue higher education at this institution. The most commonly cited reason is affordable tuition fees, with all 160 respondents (100%) identifying this as a significant factor in their enrollment decision. This underscores the importance of cost as a decisive element for prospective students when choosing an academic institution, especially in contexts where affordability may be a crucial consideration for students from diverse socio-economic backgrounds.

In terms of career-related motivations, a substantial proportion of respondents reported enrolling due to the prospect for career advancement or promotion (88.1%) and professional development (90.1%). These factors highlight the respondents' recognition of the value of further education in enhancing their career trajectories and developing their professional competencies. This aligns with broader trends in higher education, where individuals seek to acquire qualifications that can lead to better job opportunities, higher positions, and increased earning potential. The emphasis on professional development and career advancement suggests that the respondents view their academic journey as a means to improve their professional standing and skillset.

Additionally, strong passion for immediate employment was also cited by 86.3% of respondents as a motivating factor, indicating a desire for a direct link between their academic pursuits and employment opportunities. This implies that many respondents may be seeking to fast-track their entry into the workforce, possibly due to the competitive nature of the job market.

Peer influence, reported by 82.5% of respondents, further suggests that social factors, such as recommendations from friends, family, or colleagues, play a role in shaping educational decisions. The importance of peer influence in enrollment decisions reflects the interconnectedness of personal and social networks, where individuals may be swayed by the experiences or choices of those within their immediate circle.

The findings in Table 3 suggest that the decision to enroll at Guimaras State University is driven by a combination of pragmatic factors—such as affordability and career advancement—and personal motivations, including professional development and social influences. These insights have important implications for the university's marketing strategies, curriculum offerings, and overall appeal to prospective students. The university may consider emphasizing its career-oriented programs and cost-effective tuition in outreach efforts to attract students who prioritize these aspects when selecting an institution.

According to Choudaha (2020), institutions need to demonstrate that their offerings provide quality education at reasonable costs, which is increasingly recognized as critical to attracting students from diverse backgrounds. The pressure to offer competitive pricing against the backdrop of rising tuition fees necessitates that universities promote their affordable tuition structures effectively, as many students are concerned about financial return on investment.

Table 3. Reasons of enrollment of the respondents.

Reasons	F (n=160)	%
Prospect for Career Advancement/Promotion	141	88.1
Professional Development	145	90.1
Strong Passion for Immediate Employment	138	86.3
Peer Influence	132	82.5
Affordable Tuition Fee	160	100

Employment Characteristics of the Graduates

The table 4 provides the employment characteristics of the respondents, with a total of 160 GSU BEED graduates surveyed. Of these, 113 respondents (70.6%) are currently employed. Among the employed, 67 (59.3%) are in teaching positions, while 46 (40.7%) hold non-teaching roles. In terms of employment status after graduation, 98 graduates (56.8%) secured employment, while 47 (29.4%) are currently reviewing for the Licensure Examination for Teachers (LET).

This data reflects that a significant majority of the respondents are employed, with a larger portion of them finding work in the teaching sector, aligning with the expected career path for BEED graduates. However, a notable number also work in non-teaching fields, highlighting the versatility of the degree. The fact that 29.4% are still preparing for the LET suggests a delay in licensure attainment, which may imply a need for more support or resources for those pursuing certification.

These findings have important implications for academic programs, suggesting that while BEED graduates are largely employed in their field, there may be gaps in licensure preparation or timing. Institutions might consider enhancing preparation programs for the LET to further streamline the transition from graduation to full licensure. Additionally, the presence of non-teaching roles underlines the importance of providing skills that are transferable to various career options beyond traditional teaching.

As supported by the works of Caingcoy (2020) and Apostol & Susada (2022), this trend resonates with findings from multiple tracer studies that reveal that a significant percentage of BEEd graduates find employment predominantly in the public education sector. For instance, research indicates that over 60% of BEEd graduates are employed in public schools, with a smaller fraction engaging in private institutions.

Table 4. Employment Characteristics of the Respondents.

Employment Characteristics	f (n= 160)	%
Employed	113	70.6
Teaching	67	59.3
Non-Teaching	46	40.7
Employment after Graduating	98	56.8
Currently Reviewing for LET	47	29.4

Competencies Learned at GSU that are Relevant to Current Job

The table 5 outlines the competencies learned by BEED graduates from GSU College of Teacher Education that are relevant to their current jobs. The data shows that all respondents (100%) reported acquiring technical skills and communication skills, indicating these competencies as essential and universally applicable to their roles. Other important skills include problem-solving skills (91.2%), critical thinking skills (88.8%), and research skills (90.6%), with the majority of graduates recognizing their relevance to their current employment. Leadership skills were reported by 86.3%, while information technology skills were mentioned by 80.6%. Human resource skills were relevant to 71.2% of the graduates, and entrepreneurial skills were noted by 61.3% of the respondents.

This data suggests that the College of Teacher Education has effectively equipped its graduates with a comprehensive set of competencies. The near-universal acquisition of technical and communication skills underscores their fundamental role in the graduates' ability to perform their jobs. Additionally, high percentages for problem-solving, critical thinking, and research skills further indicate that these graduates are well-prepared for the challenges they face in the workforce. The relatively lower percentages for entrepreneurial and human resource skills could point to areas for further development, especially in encouraging graduates to explore diverse career paths or to become more adaptable in non-teaching roles.

The implications of this data highlight the need for continued emphasis on strengthening communication, technical, and critical thinking skills, as they are directly relevant to the workforce demands. There may also be a need to integrate more opportunities for developing entrepreneurial and human resource skills, as these competencies could broaden the career prospects for future graduates. These findings suggest that the College's curriculum is generally aligned with the needs of the labor market, but some areas may need further attention to ensure that graduates are equipped for a variety of professional opportunities.

As reported from the works of Cornillez et al. (2021) and Apostol & Susada, (2022), that one of the key competencies developed during the BEEEd program is strong communication skills. Studies indicate that graduates place a high value on their communication abilities, which they recognize as critical to their effectiveness in the workplace. Effective communication is instrumental not only in lesson delivery but also in establishing strong relationships with students, parents, and colleagues. Graduates have reported that their training in this area significantly contributed to their success in securing jobs and excelling in their roles as educators.

As they added, BEED students develop important interpersonal and human relations competencies. The ability to engage with diverse groups, understand students' needs, and foster a collaborative learning environment is fundamental in educational settings. Research shows that graduates believe their training in interpersonal relations is among the most useful skills they bring to their teaching roles. This social competence aids in building rapport with students and managing classroom dynamics effectively.

Table 5. Competencies relevant to Current Job.

Reasons	f	%
1. Technical Skills	160	100
2. Communication Skills	160	100
3. Leadership Skills	138	86.3
4. Problem Solving Skills	146	91.2
5. Critical Thinking Skills	142	88.8
6. Information Technology Skills	129	80.6
7. Research Skills	145	90.6
8. Human Resource Skills	114	71.2
9. Entrepreneurial Skills	98	61.3

Extent to which the BEED program at Guimaras State University has contributed to the development of graduates' skills.

The table 6 presents the extent of contribution to the development of various skills for BEED graduates, with the scores based on a 5-point scale. The mean scores for technical skills (4.22), communication skills (4.22), critical thinking skills (4.13), leadership skills (4.08), and problem-solving skills (4.08) all fall within the "Very Adequate" range, with standard deviations indicating low variability in responses. Human resource skills (3.84) and information technology skills (3.84) also fall under the "Very Adequate" category but with slightly higher variability, while research skills scored 3.94, also within the "Very Adequate" range. Entrepreneurial skills received the lowest mean score of 3.32, categorized as "Somewhat Adequate," with a higher standard deviation of 0.87, suggesting a wider variation in respondents' perceptions of the development of this skill.

The data reflects that the BEED graduates perceive a very high level of contribution from their program in developing key skills such as technical and communication skills, which are vital for their current roles. Critical thinking, leadership, and problem-solving skills also received strong ratings, indicating that these competencies are well nurtured within the program. However, entrepreneurial skills were rated less positively, suggesting that this area may not be emphasized as much as others in the curriculum, or that students feel less prepared to apply these skills in their professional lives.

The implications of these results point to a well-rounded education in the core competencies necessary for teaching and related fields. However, the lower rating for entrepreneurial skills suggests that there may be an opportunity to incorporate more training in this area, especially given the importance of adaptability and self-sufficiency in today's job market. Enhancing entrepreneurial education could better prepare graduates

for non-traditional career paths and foster innovation, which could be valuable both in teaching and in broader professional roles.

The curriculum of the BEEd program is designed to impart essential pedagogical skills, which are pivotal for effective teaching. A strong emphasis on curriculum development, teaching strategies, and assessment methodologies equips students with the knowledge and tools necessary to facilitate learning. Theoretical knowledge gained in these areas allows graduates to apply educational principles in classroom settings, fostering an environment conducive to student engagement and learning. Studies indicate that graduates attribute much of their preparedness for teaching to the comprehensive training received during their academic tenure, which encompasses both theoretical and practical components Brown et al. (2021).

Table 6. Extent of the program in Development of the Graduate’s Skills.

Reasons	Mean	Sd	Description
1. Technical Skills	4.22	0.61	Very Adequate
2. Communication Skills	4.22	0.61	Very Adequate
3. Human Resource Skills	3.84	0.82	Very Adequate
4. Leadership Skills	4.08	0.76	Very Adequate
5. Problem Solving Skills	4.08	0.76	Very Adequate
6. Critical Thinking Skills	4.13	0.64	Very Adequate
7. Research Skills	3.94	0.79	Very Adequate
8. Information Technology Skills	3.84	0.82	Very Adequate
9. Entrepreneurial Skills	3.32	0.87	Somewhat Adequate

Scale: 1.00-1.50 Not Adequate, 1.51-2.50 Somewhat Adequate, 2.51-3.50 Adequate, 3.51-4.50 Very Adequate, 4.51-5.00 Extremely Adequate

Level of Satisfaction of the GSU Graduates of the BEED Program

The table presents the level of satisfaction of GSU BEED graduates with various aspects of their program. The overall general satisfaction score is 4.21, indicating a high level of satisfaction. University services received a score of 4.12, university facilities scored 4.23, and the learning environment was rated 4.28. The subcategories within the learning environment also received high ratings, with teaching personnel scoring 4.26, instructional materials at 4.24, respect to students at 4.34, and the atmosphere of political and cultural understanding at 4.28. The standard deviations are relatively low across the categories, suggesting that the graduates’ responses were consistent in their satisfaction levels.

This data indicates that GSU BEED graduates are generally very satisfied with their program, especially in areas directly influencing their learning experience. The high satisfaction with teaching personnel and instructional materials suggests that the faculty and resources were perceived as effective in supporting their education. The strong rating for respect to students reflects a positive relationship between students and faculty, contributing to a conducive learning environment. The emphasis on political and cultural understanding further underscores the program’s holistic approach to education, fostering an inclusive and respectful atmosphere.

The implications of these findings are positive for the university, as they reflect that the majority of graduates felt supported throughout their academic journey. However, while satisfaction is high, there remains room for slight improvement in areas such as university services, which, though still rated highly, received the lowest satisfaction score (4.12) compared to other categories. The consistent positive ratings across the board highlight the program’s strengths, and these insights could be used to further refine and enhance areas like student services, ensuring that the overall student experience is optimized.

Feedback regarding the curriculum indicates that graduates feel positively about the content and relevance of their studies. A well-structured curriculum that integrates practical teaching methodologies and relevant pedagogical theories is essential for developing competent educators. Recent studies show that graduates have reported high satisfaction levels regarding their educational experience, often attributing this to the comprehensive training they received, particularly in areas directly applicable to their roles as teachers (Apostol & Susada,2022).

Table 7. Level of Satisfaction of the GSU Graduates to the BEED Program

Category	Mean	Sd	Description
General Satisfaction	4.21	0.36	High Satisfaction
1. University Services	4.12	0.38	High Satisfaction
2. University Facilities	4.23	0.29	High Satisfaction
3. Learning Environment	4.28	0.52	High Satisfaction
3.1 Teaching Personnel	4.26	0.49	High Satisfaction
3.2 Instructional Materials	4.24	0.46	High Satisfaction
3.3 Respect to Students	4.34	0.49	High Satisfaction
3.4 Atmosphere of Political And Cultural Understanding	4.28	0.52	High Satisfaction

Scale: 1.00-1.50 Very Low Satisfaction, 1.51-2.50 Low Satisfaction, 2.51-3.50 Moderate Satisfaction, 3.51-4.50 High Satisfaction, 4.51-5.00 Very High Satisfaction

CON

This tracer study aimed to assess the career trajectories, competencies, and level of satisfaction of Bachelor of Elementary Education (BEED) graduates from Guimaras State University (GSU) between 2018 and 2023. The study found that a majority of respondents (70.6%) are employed, with most securing teaching positions. The graduates also reported high levels of satisfaction with various aspects of their education, particularly with university facilities, learning environment, and faculty. Technical and communication skills were recognized as the most beneficial competencies learned during the BEED program, with a strong perception of their relevance to current employment. The findings indicate that the GSU BEED program has been successful in preparing graduates for careers in education, with a clear emphasis on key skills such as problem-solving, critical thinking, and research. However, the lower ratings for entrepreneurial skills suggest a potential gap in the curriculum, which could be addressed to better prepare graduates for broader career options, including those outside the traditional teaching sector.

RECOMMENDATIONS

Based on the findings of this study, it is recommended that the Guimaras State University (GSU) College of Teacher Education enhance its Bachelor of Elementary Education (BEED) program by incorporating a stronger focus on entrepreneurial and human resource management skills. These areas could better equip graduates for diverse career paths beyond traditional teaching roles, increasing their adaptability in the evolving job market. Additionally, the university should consider providing more robust support for graduates preparing for the Licensure Examination for Teachers (LET), such as dedicated review sessions or workshops, to expedite the certification process. Although graduates reported high satisfaction with university services, the relatively lower satisfaction with certain services indicates an opportunity for improvement. GSU could review and improve its student support services to ensure a more comprehensive and fulfilling educational experience. Furthermore, encouraging greater participation in professional organizations and creating networking opportunities for graduates would help foster continuous professional development. Lastly, it is recommended that the university continue tracking the career progression of BEED graduates over time, as this would provide valuable insights for ongoing curriculum adjustments to maintain relevance and improve graduate employability.

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Utilization and Attitudes Toward Recycled and Reused Materials as Teaching Resources Among Student Demonstrators

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ABSTRACT This study investigates the utilization and perception of recycled and reused materials as instructional materials in the pedagogical process among Bachelor of Elementary Education (BEEd) students. With increasing environmental concerns, including waste disposal and resource conservation, this research aims to explore how sustainable practices, such as recycling and reusing, can be integrated into the teaching and learning process. The study used a quasi-experimental design, involving 27 second-year BEEd students who conducted demonstration teaching using various recycled materials, such as plastic bottles, cans, and newspapers. Data were collected through interviews and observations, which were then analyzed using a thematic approach. The results revealed that recycled materials were frequently used due to their accessibility, cost-effectiveness, and environmental benefits. Participants highlighted the advantages of using these materials, such as reducing waste, saving money, and promoting creativity. However, challenges were noted in terms of preparation and the perceived effectiveness of these materials in enhancing student learning. The study concludes that while the use of recycled and reused materials has potential educational and environmental benefits, further support in terms of teacher training and resources is necessary to fully integrate these materials into teaching strategies. The findings suggest the need for continued research and initiatives to promote sustainable practices in education.

Keywords: cost effective, creativity, educational benefits, environmental problem, pedagogical intervention, resiliency in education

INTRODUCTION

Background of the study

The world is tremendously becoming technologically advance of all things that are used already by human race. The things that are used in the houses, companies, offices, agencies and organizations those include schools which sometimes materials and supplies are being abused and there is no proper way of using them. Because of these, it is getting worse in terms of economy and environment problems due to many concerns and issues, which are brought by the nature and by fabricated items of human being. One of them is the waste disposal, which is being scattered everywhere and anywhere. Some people do not know how to dispose it properly. Some children are not totally trained and educated on how to do it. Because of that, the proper place to train and educate them is in the school. It has a big factor to contribute in relation to waste management.

Now more than ever, educators have critical roles to play, not only in providing their learners with knowledge and skills to address challenges and issues, but also in promoting the values that will instill concernment and responsibility towards their community and in the whole world. Educators need to step back and redefine education based on the challenges have been facing today especially in terms of environmental issues. It should

be based on pedagogical principles such as inter-disciplinary, value orientation, cultural awareness, problem-solving orientation, methodological diversity, participation and local involvement (EPA, 2018). The overall aim of education is far beyond the classroom setting, it is to empower the learners on what to contribute to the society in a reflected and responsible manner. The school personnel, students and stakeholders are the main sources of using different materials in school as well as in the environment. The school personnel have something to do regardless of advance in technology to minimize the garbage in school and anywhere through recycling and reusing of it. It could also help in the teaching and learning process by using them as instructional materials to augmenting the computer aided inside the classroom. The millennial learners and teachers are expected to be creative and innovative in their own ways of teaching and learning by using their learning skills, literacy skills, and life skills. Creativity and innovation is not only done through computer technology aided but in some other ways especially if education is concern.

This study was conducted in order to find out the utilization and perception of recycled and reused materials as instructional materials in pedagogical process in the classroom. In the theory "constructivism" of John Dewey, a theory of knowledge (epistemology) argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas. As a theory of learning, constructivism is relevant in this study as the researcher wishes to establish how learners learn and teachers teach. Constructivism is a theory -- based on observation and scientific study -- about how people learn. It is studied that people construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences. The role of the teacher in the social constructivist classroom is to help students to build their own knowledge through their creativity and innovative skills and to control the existence of students during the learning process in the classroom. Hence, the teacher concentrates on students' learning rather than on teacher performance.

Teaching the learners on good environmental habits by reusing and recycling classroom items at school is one of the signs of practicing pedagogical principles. It is not only will be demonstrated on how to live an Eco-friendly life, but will also save a lot of money on classroom supplies in the part of the teacher (Janelle Cox, 2019).

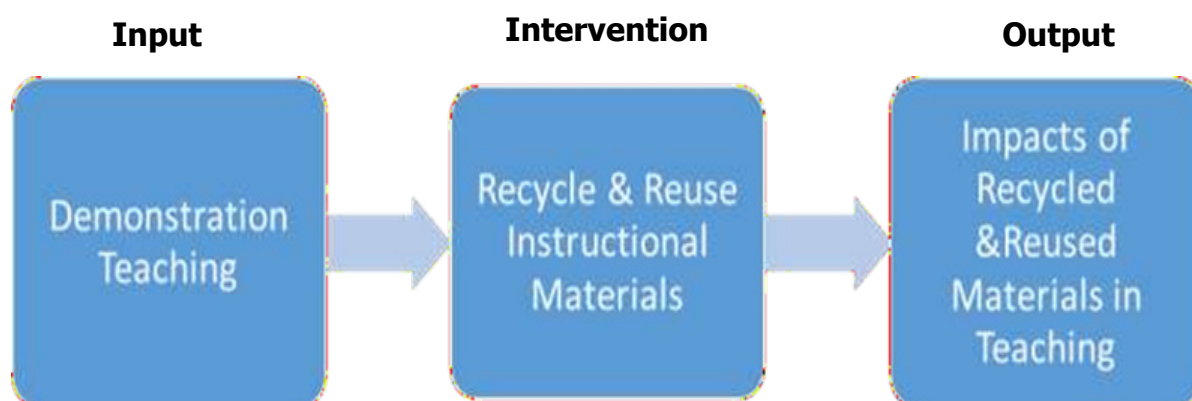
Objectives of the Study

This study will be conducted in order to find out the impact of recycled and reused materials as instructional materials in pedagogical process in the classroom.

Specifically it will answer the following questions;

1. What is the utilization rate and perception of recycled and reused materials utilized in the demonstration teaching as instructional materials?

Research Paradigm



Theoretical Framework

In the theory of constructivism of John Dewey, is a theory of knowledge (epistemology) that argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas. As a theory of learning, constructivism is relevant in this study as the researcher wished to establish how learners learn and teachers teach. Constructivism is basically a theory -- based on observation and scientific study -- about how people learn. It says that people construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences. The role of the teacher in the social constructivist classroom is to help students to build their knowledge and to control the existence of students during the learning process in the classroom. Finally, the teacher concentrates on students' learning rather than on teacher performance.

METHODOLOGY

The study was conducted by using Quasi-experimental, which is an empirical interventional study to estimate the causal effect of an intervention on target population without random assignment.(Cresswell, J.W. & Cresswell, D.,2018). It involved selecting groups without any random pre-selection processes. The participants were the total population of twenty seven students (27) of groups of second year students, who were taking Bachelor of Elementary Education (BEEd). They had their demonstration teaching inside the class of the researcher by using recycled and reused materials as their instructional materials.

After the demonstration teaching they were interviewed. They were asked in relation to their experiences and preparation they had done while having a demonstration teaching by using recycled and reused materials as their instructional materials. It was recorded in video in relation to their answers. The respondents were asked about the recycled and reused materials they used in their teaching and learning as instructional materials as well as they were asked about the effect of using recycled and reused materials as instructional materials in teaching their students inside the classroom. Their answers were consolidated and tallied the common answers to the questions were asked from them. To make it specific, researcher asked the following questions: What are the recycled and reused materials you used in your demonstration teaching? Moreover, how is the effect of using recycled and reused materials as instructional materials?

The researcher acted as observer. During the observation, the researcher did not interfere the demonstration until all of the participants were able to finish their demonstration teaching. At the same time, the researcher jotted down notes based on the observation made.

After the consolidation of the respondents' answers to the questions asked, they were analyzed and interpreted based on the study by using thematic approach.

RESULTS AND DISCUSSION

The data and information needed were gathered from actual teaching demonstration and through videos. It was listed down the reused and recycled instructional materials used and were tallied as reflected on the table below:

Utilization of Recycled and reused materials in the demonstration teaching

The table 1 above presents data on the utilization of recycled and reused materials by participants in a demonstration teaching session, where a total of 27 participants were involved. The materials utilized varied, with plastic bottles being the most frequently used at 88.89%, followed by drinking cans at 74.07%. Other materials such as plastic water containers and plastic cups were also commonly used, each at 55.56%. Cartoons and drinking straws were utilized by 44.44% and 40.74% of the participants, respectively. Newspapers and brochures were used by 37.03% of participants, while breakable bottles were also used by 40.74%. Wood sticks had the least utilization, with only 18.52% of participants incorporating them.

The data shows that plastic materials, particularly bottles and cans, are the most favored by participants in the demonstration, likely due to their accessibility, durability, and potential for various uses in educational activities. In contrast, materials like wood sticks, which may be less versatile, were used by fewer participants. This trend could indicate a preference for more practical or easily accessible materials in creating teaching tools or learning aids.

The data highlights the importance of encouraging sustainable practices in educational settings. The higher utilization of plastic materials could signal a reliance on such resources, which, despite their benefits in terms of availability and usability, contribute to environmental waste if not disposed of properly. It also suggests that materials that are less environmentally impactful, such as wood sticks, need further promotion for wider adoption. Moreover, the data suggests a need for greater awareness of alternatives to plastic and for more creative approaches to utilizing materials that are both sustainable and educational.

This implicates that there is an opportunity to enhance environmental consciousness among participants by integrating more sustainable and reusable materials into demonstration teaching activities. Educators can use this information to create awareness and encourage practices that reduce the environmental impact of teaching materials, promoting a culture of sustainability within the educational sector.

Based on the findings of Ding et al., (2023) and Chatzopoulos et al., (2023), that the integration of service design pedagogies in education has shown promise in encouraging students to innovate with recycled materials. As supported also by Neinhuis (2021), service learning projects have demonstrated that recycled materials can serve as catalysts for product innovation, particularly in higher education contexts. This pedagogical approach supports the notion that higher-level learning occurs when students are challenged to apply their creativity in real-world contexts, turning waste into valuable educational resources.

Moreover, by implementing green chemistry principles that utilize recycled materials, educators can further enrich the learning experience. This approach enhances students' knowledge of chemical safety and sustainability and allows them to engage practically with ecological concerns (Zahari & Taha, 2021). Similarly, educational projects involving building and crafting with recycled materials can significantly improve students' analytical thinking and problem-solving skills (Chystiakova, 2022). Projects that require students to rethink waste materials highlight the potential for upcycling, cultivating a deeper understanding of resource management and sustainability (Neinhuis, 2021; Ashraf & Alanezi, 2020).

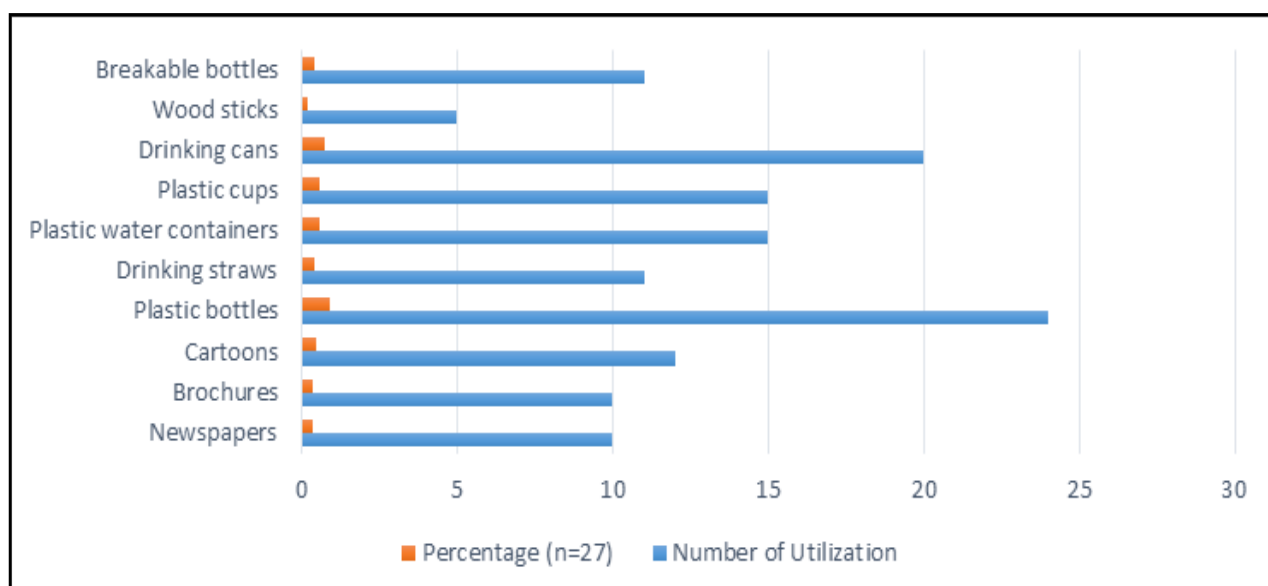


Figure 1: Utilization of Recycled and reused materials by the participants in the demonstration teaching.

Perceptions of using recycled and reused instructional materials in demonstration teaching

The data presents the responses of 27 participants regarding the effect of using recycled and reused materials as instructional materials (IMs) in teaching. The responses were varied, with some highlighting the benefits of environmental conservation, economic savings, and fostering creativity, while others mentioned the challenges of preparation and questioned the effectiveness of using these materials in the classroom.

Among the positive responses, many participants noted the utility of recycled materials in reducing waste, saving money, and promoting environmental awareness. For example, several participants mentioned how using recycled materials can help reduce garbage and conserve resources. Others emphasized the creativity required in repurposing these materials, describing the process as both beneficial for the environment and a source

of personal development. However, there were also a number of responses indicating that the effectiveness of these materials depends largely on the creativity and preparation involved. Some participants expressed that while the use of recycled materials could be useful, it was not always easy to prepare and may not have a significant impact on student learning.

The interpretation of the data reveals a mixed perception of using recycled and reused materials as instructional tools. A substantial number of respondents recognized the environmental benefits, such as reducing waste and conserving resources, as well as the economic advantages, particularly for teachers who can save money by utilizing materials they already have. The emphasis on creativity and innovation suggests that participants view the repurposing of materials as an opportunity for both personal growth and student engagement.

However, there were also critical responses indicating that the use of recycled materials may not always yield significant educational outcomes. Some participants felt that these materials were difficult to prepare and may not enhance the learning experience as much as other more conventional teaching aids. These responses highlight the challenge of integrating recycled materials into a teaching strategy effectively and the potential limitations when it comes to the practical application of these materials in the classroom.

The implications of this data suggest that while the use of recycled and reused materials can be beneficial, it may require additional support in terms of teacher training and resources to maximize its effectiveness. Teachers may need guidance on how to creatively incorporate these materials into their teaching strategies, ensuring that they not only serve environmental and economic purposes but also contribute to meaningful learning experiences. Furthermore, future studies should explore the specific contexts in which recycled materials can be most effectively used, taking into account factors such as subject matter, student needs, and available resources.

Table 1. The perception on the utilization recycled and reused materials as instructional materials.

Respondent	Answers from video by answering the question on the utilization of recycled & reused materials as IMs
1	For me, the effect of using recycled and reused materials as instructional is very useful and lessen the garbage in the environment.
2	It was great, can be useful in the environment and save money in the part of the teacher.
3	It was great, can value the environment in terms of garbage and it save money instead of buying the materials
4	It has no great or less effect but students will learn how to value the things around them by not throwing their used materials.
5	First, they are economically and very available; second, we are saving mother earth; and, third we are learning how to be creative and innovative.
6	It is related to home economic, it is great and save the garbage.
7	The effect for me, it is very useful and can help the garbage in the surroundings.
8	For me, the effect, it is useful and have less garbage.
9	The effect is, it can help the environment.
10	The effects are many, one is by having creativity.
11	The effect is creating another thing from out of it.
12	It helps saving money to me and how to be creative.
13	For me, it has great effect and teaches students to be more creative.
14	For me, it has great effect, convenient, useful and needs creativity.
15	It is useful especially by saving the garbage.
16	For me, using recycled & reused materials in the classroom is not that effective. Still, it depends on how creative the individual is.
17	It is hard to prepare and has no positive effect to me but it helps our environment.
18	It is ok but hard to prepare.
19	As I teach as if I am teaching also technology by creating something.
20	It a challenge and I enjoy preparing my visual aids using recycled and reused materials found around us.
21	I help collecting the garbage in our surrounding.
22	I did not spend money to buy my materials instead I collected the empty items at home.
23	Its effect to me is to be creative and to be a discoverer.
24	I'm not good in art. But I help the garbage spreading.
25	It has good effect to the environment but not easy to prepare the materials.
26	Positive effect in saving money.
27	For me, recycled and reused materials have no big effect in teaching but the teacher becomes creative.

CONCLUSION

The study explored the utilization and perceptions of recycled and reused materials as instructional materials in demonstration teaching. The findings suggest that these materials are commonly used due to their accessibility, cost-effectiveness, and potential environmental benefits. The most frequently used materials include plastic bottles, cans, and other easily available items, emphasizing the importance of sustainability in educational practices.

Participants noted several advantages, such as reducing waste, saving money, and fostering creativity. However, challenges were also identified, particularly in the preparation process, and there were mixed views on the effectiveness of these materials in enhancing student learning. Despite these concerns, the general perception was positive, with many participants recognizing the value of using recycled materials to promote environmental consciousness and creativity.

This study highlights the need for further research on how to integrate recycled materials more effectively into educational settings. Teachers would benefit from additional training and resources to enhance the creative use of these materials in a way that both supports environmental sustainability and improves teaching outcomes.

RECOMMENDATION

It is recommended that educators receive more training and support in the creative use of recycled and reused materials to maximize their effectiveness as instructional tools. Schools should foster an environment where sustainability is prioritized by incorporating eco-friendly practices into the curriculum. This can be achieved through workshops or professional development programs that guide teachers on how to effectively integrate these materials into their teaching methods. Additionally, further research is needed to identify the most suitable materials for different subjects and age groups, as well as to explore the potential challenges in preparing and utilizing these materials. By promoting a culture of creativity and environmental consciousness, schools can enhance student engagement while contributing to a more sustainable future.

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Reframing Instructional Competence: A Phenomenological Study of Pupils' and Parents' Lived Experiences in Philippine Public Elementary Schools

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ABSTRACT This study examines instructional competence through a phenomenological lens by exploring the lived experiences of pupils and parents in a Philippine public elementary school context. Anchored in constructivist learning theory, creative pedagogy, and reflective practice, the research conceptualizes teaching competence as a multidimensional construct encompassing cognitive, relational, and ethical dimensions. Using purposive sampling, twenty participants—comprising ten pupils and ten parents—were selected to provide in-depth insights through semi-structured interviews and focus group discussions. Data were analyzed using thematic analysis, ensuring rigor through credibility, transferability, dependability, and confirmability measures. Findings reveal that instructional competence is primarily understood through relational competence, demonstrative and scaffolded teaching practices, and observable learner outcomes, particularly in literacy development. Pupils emphasized the importance of teacher kindness, clarity of instruction, and engaging learning activities, while parents highlighted visible improvements in their children's reading and writing skills as indicators of effective teaching. However, a significant tension emerged between effective pedagogical practices and the persistence of corporal punishment, reflecting a misalignment between instructional competence and child protection principles. Additionally, discrepancies between pupils' lived experiences and parents' perceptions underscore the need for more inclusive evaluation mechanisms. The study concludes that instructional competence extends beyond technical teaching skills to include ethical and relational dimensions that promote a safe and supportive learning environment. It recommends strengthening teacher development programs on positive discipline and learner-centered pedagogy, enhancing participatory evaluation systems, and reinforcing policy implementation aligned with the Philippine Professional Standards for Teachers. These findings contribute to policy and practice by providing a stakeholder-informed perspective on teacher competence in Philippine basic education

Keywords: instructional competence, phenomenology, teacher evaluation, qualitative research, Philippines, child protection

INTRODUCTION

Teacher competence is widely acknowledged as a critical determinant of educational quality, influencing student achievement, engagement, and long-term development. Globally, frameworks such as those of the OECD (2021) and Darling-Hammond and Oakes (2021) emphasize multidimensional competence, including pedagogical expertise, relational capacity, and reflective practice. In the Philippines, the Philippine Professional Standards for Teachers (PPST) institutionalize these expectations across domains such as learner diversity, assessment, and community engagement.

Despite these policy advancements, empirical evidence reveals persistent gaps between prescribed standards and classroom realities. Recent international studies highlight systemic constraints—including large class sizes, limited resources, and insufficient teacher training—that hinder effective implementation of competency-based education (Nombo et al., 2024). Similarly, Philippine-based studies report generally high teacher competence but identify weaknesses in formative assessment and learner-centered strategies (Talahiban et al., 2022; Gepila, 2020).

However, a critical limitation of existing literature is its reliance on quantitative and teacher-centered evaluations, often neglecting the perspectives of pupils and parents. This omission is significant, as these stakeholders experience teaching competence in its most immediate and practical form. Emerging research suggests that learner and parent perspectives provide deeper insights into relational dynamics, ethical practices, and actual learning outcomes (Roorda et al., 2023; Kim & Schallert, 2022).

Moreover, there is limited qualitative research in the Philippine context that captures how teaching competence is lived, negotiated, and interpreted within socio-cultural and policy environments. This gap is particularly important given the persistence of issues such as corporal punishment, which contradicts established child protection policies (DepEd Order No. 40, s. 2012).

Thus, this study adopts a phenomenological approach to explore how pupils and parents construct meanings of instructional competence. Grounded in constructivist and relational theories, it aims to provide a context-sensitive and stakeholder-informed understanding that can inform policy, teacher development, and educational management. Particularly, we intended to achieve the following objectives:

1. To describe the perspectives of students and parents on the teaching competence of teachers in this school; and,
2. To draw the implications of the results for the educational management of their school head.

Theoretical Perspectives

Theoretical Framework

This study is anchored in an integrative theoretical framework that conceptualizes instructional competence as a multidimensional construct shaped by cognitive, relational, and ethical dimensions of teaching practice. Drawing on constructivist learning theory, creative pedagogy, and reflective practice, the framework provides a coherent lens for interpreting the lived experiences of pupils and parents within the Philippine public school context.

Constructivist Learning Theory

The study is grounded in the constructivist tradition, particularly the work of Jean Piaget, which posits that learners actively construct knowledge through interaction, experience, and reflection. Within this perspective, teaching competence is not defined solely by the transmission of content but by the teacher's capacity to facilitate meaningful learning experiences that promote inquiry, critical thinking, and knowledge construction. This theoretical orientation justifies the inclusion of pupils' lived experiences as primary sources of data, as they are active participants in the learning process and can provide direct insight into how instructional practices are experienced and internalized. In this sense, competence is evaluated based on how effectively teachers create environments that support engagement, exploration, and cognitive development.

Creative Pedagogy

Complementing the constructivist perspective, the framework incorporates Mayesky's concept of creative pedagogy, which emphasizes the role of teacher creativity, innovation, and intrinsic motivation in fostering meaningful learning. Creative pedagogy positions instructional competence as the ability to design and implement engaging, contextually relevant, and learner-centered activities that stimulate curiosity and sustain interest. In the context of this study, creative teaching practices are reflected in demonstrative and scaffolded instructional strategies observed by parents and experienced by pupils. These practices enable learners to connect abstract concepts to concrete experiences, thereby enhancing comprehension and retention. Thus, competence extends beyond technical proficiency to include the capacity to inspire, motivate, and adapt instruction to diverse learner needs.

Reflective Practice

The framework is further strengthened by the inclusion of reflective practice, as articulated by Arthur and Cremin, which conceptualizes teachers as adaptive professionals who continuously evaluate and refine their pedagogical approaches. Reflective practice underscores the importance of responsiveness to learners' cognitive and socio-emotional needs, as well as the capacity to adjust teaching strategies based on ongoing assessment and feedback. Within this perspective, instructional competence is not static but evolves through critical reflection and professional learning. This is particularly relevant in addressing issues such as classroom management and disciplinary practices, where ethical considerations and responsiveness to learners' well-being are paramount.

Analytical Integration of Theoretical Perspectives

Taken together, these theoretical perspectives provide a comprehensive framework for understanding instructional competence as a dynamic and context-sensitive construct. Specifically, the integration of these theories enables the conceptualization of competence across three interrelated dimensions: Cognitive Dimension, which pertains to the effectiveness of teaching in facilitating learning outcomes, particularly in literacy and skill development; Relational Dimension, which emphasizes the quality of teacher–student interactions, including care, empathy, and the creation of a supportive learning environment; and Ethical Dimension, which highlights the importance of humane and child-centered practices, particularly in relation to discipline and the protection of learners’ rights. This integrated framework addresses prior critiques of theoretical fragmentation by explicitly linking foundational theories to the study’s analytical process. It guided both data interpretation and thematic development, ensuring that emergent themes were examined not only in terms of observable practices but also in relation to broader pedagogical, relational, and ethical considerations. In doing so, the framework situates instructional competence within the lived realities of pupils and parents, while aligning with national policy imperatives on teacher quality and child protection in Philippine basic education.

METHODOLOGY

Research Design

This study employed a qualitative phenomenological approach to deeply explore and describe the lived experiences of pupils and parents regarding the teaching competence of elementary school teachers at Tibungol Central Elementary School in Davao City, Philippines. Phenomenology was chosen because it captures the subjective meanings and interpretations that participants attach to their experiences, consistent with its philosophical foundations (van Manen, 2014). This approach enabled the study to illuminate how competence is understood not merely as a professional standard but as a lived, relational practice embedded in everyday schooling.

Participants and Sampling

We utilized purposeful sampling to select participants who could provide rich, first-hand accounts relevant to the phenomenon under study (Creswell & Poth, 2018). The sample comprised 20 participants, specifically 10 pupils (aged 9–12 years, ensuring sufficient experience with multiple teachers and ability to articulate their thoughts) and 10 parents (primary caregivers of pupils enrolled in the same school). Selection was guided by willingness to participate, accessibility, and the potential to provide diverse perspectives on teacher competence.

The sample size (N = 20) was deemed sufficient for achieving thematic saturation, defined as the point where no new insights emerge from additional data collection (Guest, Bunce, & Johnson, 2006). Data collection was discontinued once redundancy was consistently observed across both interviews and focus group discussions (FGDs).

Data Collection

Data were collected through semi-structured, in-depth interviews and FGDs, allowing for both personal narratives and shared perspectives to emerge (Bryman, 2012). Interviews were conducted in locations that were safe and convenient for participants, such as school premises or community centers, fostering comfort and openness. Following Creswell's (2012) recommendations, interviews began with general, non-threatening questions before moving to specific inquiries about teaching competence and classroom practices.

Each interview lasted approximately one hour, producing detailed narratives. All sessions were audio-recorded with informed consent, and non-verbal cues (e.g., tone, gestures) were noted to enrich interpretation. This dual method generated "thick, rich descriptions" that captured the depth and complexity of participants' lived experiences (Bryman, 2008).

Data Analysis

The data were analyzed using thematic analysis guided by Ritchie and Spencer's (1994) framework. The process began with familiarization through repeated listening, transcription, and reflective journaling to engage with participants' voices while acknowledging researcher positionality (Smith, 2006). Coding was treated as an interpretive act rather than a purely mechanical task (Ritchie et al., 2010).

Analysis proceeded iteratively through: Indexing and coding line by line, guided by research aims; Charting data with anonymized identifiers, verbatim excerpts, and interpretive notes; Mapping and interpretation to uncover relationships, tensions, and contrasts between pupils' and parents' perspectives

This process was both inductive and deductive—sensitive to participants' language while informed by constructivist and reflective pedagogical theories.

Trustworthiness

We ensured the rigor of this study by applying Lincoln and Guba's (1985) criteria of trustworthiness—credibility, transferability, dependability, and confirmability—as further elaborated by Steinke (2004). These criteria provided a systematic foundation for strengthening the reliability and validity of the findings.

Credibility was established through prolonged engagement with the data, member checking with participants, and triangulation of multiple data sources, including interviews and focus group discussions. These strategies enhanced the accuracy of interpretations and helped ensure that the participants' voices were authentically represented. Transferability was achieved by providing thick, detailed descriptions of the research context, participants, and processes, enabling readers to assess the applicability of the findings to other settings.

Dependability was maintained by documenting a transparent account of data collection and analysis procedures, thereby creating an audit trail that traced methodological decisions and changes throughout the study. Finally, confirmability was supported through reflexive journaling, inter-coder discussions, and secure storage of transcripts and recordings, which safeguarded against researcher bias and anchored interpretations firmly in the participants lived experiences.

Ethical Considerations

The study adhered to seven principles of ethical research (Vashist, 2000): informed and voluntary consent, respect for privacy, minimization of risk, truthfulness, social responsibility, research adequacy, and avoidance of conflict of interest. Prior approval was secured from the Schools Division Superintendent and the school principal. For pupils, parental consent and child assent were obtained. Participants were informed of their rights to withdraw at any time, and anonymity was ensured by using codes in place of names. Consent forms and transcripts were stored securely.

Reflexivity and Positionality

We acknowledged our positionality as educators and scholars with prior knowledge of the public-school context, which could shape both data collection and interpretation (Berger, 2015). The dual roles of interviewer and transcriber enabled deep familiarity with the data but also introduced risks of interpretive bias. To mitigate these, we built rapport with participants and used language flexibility (English and local dialects) to ensure comfort and authenticity, maintained reflective journals to track assumptions and their potential influence, documented both verbal and non-verbal cues during transcription, and engaged in peer debriefing with a supervisor/critical friend to challenge interpretive tendencies. These strategies ensured that the voices of pupils and parents remained central, grounding interpretations in lived experiences rather than researcher preconceptions.

RESULTS AND DISCUSSION

In this section, the major themes drawn from interviews with selected students are presented. Subsequently, these were confirmed by their parents' information in the focus group discussion.

Theme 1: Relational Competence as Core to Teaching

Maau siya mutudlo kay kasabot ko. Ganahan ko sa akong teacher. (My teacher is good in teaching, because I easily learn from her. So, I like my teacher.) - S1

Happy ko sapag-eskwela kay makabalo ko mubasa. Maayo si teacher nako sa pagtudlo kay makabasa na ko ug makasulat. Pero, naa langkoy dili maayunan. Nagapangusi ang teacher nako. (I am happy with my studies because I have learned how to read. My teacher is good, for she teaches me how to read and write. However, there is one thing that I dislike about my teacher. She is inclined to pinch.) – S2

Ok man akong maestra kay gipasulat mi. Pero, naa koy dili nauyunan kay nagapamalo siya. (My teacher is OK, for she engages us in writing. However, what I do not like in her is that she tends to spank us.)- S3

Naganahan ko sa akong teacher kay buutan siya. Makasabot kosa pagtudlo niya kay naminaw ko niya. (I like my teacher because she is kind. When she teaches, I listen. So, it makes me easily understand the way she teaches.) -S4

This theme highlights that students' perceptions of instructional competence are neither uniform nor simplistic, but rather shaped by a range of experiences with different teachers, subjects, and classroom contexts. The variation in their responses reflects how competence is relationally and situationally defined—what counts as “good teaching” for one student may be grounded in interpersonal warmth, while for another it is rooted in concrete skill-building. These perspectives are inseparable from the broader socio-educational realities of Philippine public schools, where large class sizes, resource limitations, and the curriculum's strong emphasis on literacy condition how teaching is practiced and perceived.

Students' accounts suggest that instructional competence is understood through three interwoven dimensions: affective (teachers' kindness inspires participation), cognitive (teachers' instruction in reading and writing is recognized as essential), and practical (writing activities provide opportunities for application and mastery). Collectively, these reveal that for learners, competence is not confined to technique alone; it emerges at the intersection of pedagogy, care, and context. In this sense, students position their teachers' effectiveness not as an abstract standard but as a lived reality that fosters motivation, literacy development, and meaningful engagement, as inferred from their testimonies.

This perspective resonates with Rogers' (1983) humanistic view of teaching as an act of empathy and authenticity that fosters learner confidence and holistic growth. Similarly, Vygotsky's (1978) constructivist framework underscores the social dimension of learning, where positive relationships with more knowledgeable others are central to developing both cognitive and affective capacities. Recent studies affirm that relational competence—teachers' ability to establish trust, empathy, and care—significantly predicts students' academic engagement and motivation (Federici & Vangrieken, 2020; Roorda et al., 2023).

Theme 2: Tension Between Effective Teaching and Corporal Punishmen

“Ok man akong maestra kay gipasulat mi. Pero, naa koy dili nauyunan kay nagapamalo siya. (My teacher is OK, for she engages us in writing. However, what I do not like in her is that she tends to spank us.) -S3

“Happy ko sapag eskwela ko ka makabalo ko mubasa. Maayo si teacher nako sa pagtudlo kay makabasa na ko ug makasulat. Pero, naa lang koy dili mauyunan. Nagapangusi ang teacher nako.” (“I am happy with my studies because I have learned how to read. My teacher is good, for she teaches me how to read and write. However, there is one thing which I do not like about my teacher. She is inclined to pinch”)-S2

In the student interviews, a complex theme surfaced: while learners recognized their teachers as “good in teaching,” this acknowledgment was tempered by accounts of corporal punishment, such as being pinched or spanked. This contradiction reveals how instructional competence is entangled with disciplinary practices. On the one hand, students valued their teachers’ ability to facilitate learning; on the other, the persistence of punitive methods introduced tension into their perceptions. Rather than dismissing these experiences, students seemed to negotiate them—holding on to respect for their teachers’ academic guidance while simultaneously disclosing practices that undermined the humane and supportive climate they otherwise desired. This suggests that in their lived experience, “good teaching” can coexist with problematic discipline, reflecting broader cultural norms of authority in classrooms and the lingering acceptance of corporal punishment in some educational settings, as inferred from their statements.

The consequences of such practices are well-documented. Corporal punishment has been linked to heightened aggression, increased bullying, and poor psychological adjustment among learners (Zolotor et al., 2014; Cuartas et al., 2021). At the global level, the World Health Organization (2025) has categorized corporal punishment as a public health concern due to its adverse effects on children’s mental health, cognitive development, and social functioning. More recent evidence shows that exposure to violent discipline predicts lower academic performance and reduced classroom participation (Gershoff et al., 2023). In this light, while relational competence is celebrated as a transformative quality of teachers, corporal punishment represents a regressive force that erodes students’ trust and diminishes the positive relational climate necessary for learning.

Theme 3: Demonstrative and Scaffolded Teaching

“Ginapakita nila ang ways arun makatuon ang mga bata. Example, sa pag-pronounce, gitudluan sa mga teachers kung paano mag pronounce o pag basa. Akong kamagulangan nga anak, hawud pud honor siya sapag graduate, pag abot niya sa Tadeco, hawud na siya.” (“They show the ways so that their students can easily learn. For example, in pronunciation, the teachers teach their students how to pronounce words well or read. When my eldest son finished his education here with honors, he was really good in reading. So, when he studied in Tadeco, he maintained his academic honors.”)- P3

In the focus group discussion, parents built on their children’s testimonies, and from their collective reflections, the theme of Demonstrative Teaching emerged. This theme points to the affirmation of the parents that their children’s progress in reading and writing is attributed to the pedagogical strategies employed by teachers. One parent illustrated how the demonstration method became more than a technique—it was a bridge between abstract knowledge and tangible learning. She stated that by modeling pronunciation and showing learners how to decode words, teachers transformed reading from a mechanical exercise into a step-by-step, accessible process. This parental observation suggests that instructional competence lies in the ability to make learning visible and replicable, enabling children to internalize skills through guided practice. In this light, the demonstration method is interpreted not merely as a tool but as an empowering approach that scaffolds learners’ confidence and independence, as inferred from her extracted testimony.

Several studies trace a link between teacher knowledge/instructional expertise and student reading outcomes. When teachers demonstrate, articulate, and scaffold, they translate complex knowledge about phonics, decoding, and comprehension into concrete classroom practices that students can observe, imitate, and internalize (Pressley et al., 1996; Lyon & Weiser, 2009; Ellis & Moss, 2013; Englert et al., 2019).

Theme 4. Good Human Relationships with Students

"Sweto nako sa the way sila mu care sa mga bata. Dili nila gina isipna laing tao ang mga bata. Gina-treat akita murag kadugo nila ang mga bata. Dili pud sila pabaya sa mga bata. Panatag ko sa mga pamaagi nila. Gani ang ginikanan, relaks lang ko." ("I am familiar with the way the teachers teach our children. They do not consider our children as strangers to them. They treat them like their relatives. They do care for our children. I am fully at ease with their ways, so as a parent, I feel relaxed.") – P2

"Ang mga maestra sa Tibungol nagatudlo maau sa mga bata. Wala nila ginapaagi sapag bunal kay bawal naman na. Ila jud na ginapakitasa mga bata ang pamaagi arun makabalo pud ang mga bata." ("The teachers in Tibungol teach well the children. They do not use corporal punishment, for it is restricted by law. They rather show the way for their children to learn.") – P3

A striking tension emerged when comparing the testimonies of students with those of their parents. While some children recounted experiences of corporal punishment, parents in the focus group discussion highlighted the contrasting theme of Good Human Relationships with Students. Their emphasis on kindness and care framed effective teaching as inseparable from the relational and ethical stance teachers adopt. For them, competence was not measured solely by instructional strategies, but by the ability of teachers to embody patience, warmth, and respect in their interactions.

This divergence between student and parent perspectives is revealing. On the one hand, it exposes how children's lived realities of discipline may conflict with parents' idealized or generalized views of teachers as "second parents." On the other hand, it underscores how both groups situate competence within the realm of human relationships, whether as an aspiration (parents' view of care and nurturance) or as a site of struggle (students' accounts of fear and punishment). The parents' insistence on a child-friendly, punishment-free classroom reveals an implicit critique of practices that undermine humane teaching. Thus, the tension itself becomes an interpretive lens: it demonstrates that instructional competence is negotiated not only through pedagogical ability, but also through the alignment—or misalignment—between relational ideals and disciplinary realities in the classroom.

Based on research studies, student narratives that foreground fear or punitive discipline illuminate the counterpoint: disciplinary realities can impede learning when fear inhibits risk-taking, inquiry, and engagement. This aligns with literatures on social-emotional learning and the detriments of high-punitive approaches for marginalized students, reinforcing that effective literacy and disciplinary practices must cohere with

relational warmth and autonomy-supportive environments (Bailey et al., 2019; Marshall, n.d.; Stewart et al., 2021). The parental stance represents an interpretive lens where instructional competence includes capacity to create safe, respectful, and responsive classrooms that honor student dignity (Stewart et al., 2021; Bailey et al., 2019).

Theme 4: Development of Literacy and Skills

"Mabantayan nako ang kabaguhan sa akong anak. Gikan sa kinder pa akong mga anak, gitudloan man sila. Nakita nako ang ilahang development. Wala ko naga observe sa klase pero Makita nako sa akong anak ang kabag-uhan. Mismo ang akong anak ang mag tabi kung unsa ilang gihimo." (I observe changes in my children. Since they were in kinder, they have been taught. I have seen their development. Though I do not observe them in their classes, I have seen changes in them. It is my children who tell me about their doings in school.) – P1

"Basin sa pagtudlo sa mga maestra, ok man Sir kay nakita man nako ang kausaban sa akong anak. Sweto nako sa the way sila mu-care sa mga bata." (With regards to teaching, it is OK, Sir, for I have seen the improvement of my child. I knew the way they care for the students.") – P2

On the other hand, the theme of Development of Students' Knowledge and Skills surfaced strongly in the focus group discussion, as parents unanimously validated their children's claims of learning from their teachers. What stood out in their reflections was that "good teaching" was not equated with mere instructional delivery, but interpreted as a transformative force shaping their children's educational trajectories. Parents framed competence less as a technical ability to cover content and more as the capacity to cultivate growth, both cognitive and personal. Their trust in teachers was anchored in visible outcomes—progress in reading and writing—which they regarded as more than functional literacy skills. For them, these were markers of their children's readiness to navigate schooling and life, concrete proof of teachers' effectiveness and care. This interpretation suggests that parents positioned instructional competence at the intersection of pedagogy and human development: teaching was valued not just for transmitting knowledge, but for shaping learners' confidence, motivation, and future possibilities. In this sense, their acknowledgment reflects a broader vision of education as an act of guidance and formation, where teachers are entrusted with nurturing children's holistic growth.

The claim that progress in reading and writing serves as concrete proof of teacher effectiveness and care is supported by work emphasizing observable literacy outcomes as signals of instructional quality and teacher competence (Pressley et al., 1996;; Lyon & Weiser, 2009;; Cromwell et al., 2024). These sources argue that modeling, explicit instruction, guided practice, and progress monitoring translate teacher knowledge into visible student gains, which parents and stakeholders interpret as evidence of care and efficacy (Pressley et al., 1996;; Boardman, 2021; , Englert et al., 2019).

CONCLUSIONS

This phenomenological study demonstrates that instructional competence in Philippine public elementary schools is a multidimensional and relational construct shaped by cognitive, affective, and ethical dimensions of teaching practice. Findings reveal that both pupils and parents associate effective teaching with the ability to facilitate literacy development, employ demonstrative and scaffolded strategies, and establish caring, supportive relationships. However, a critical tension emerges between perceived teaching effectiveness and the persistence of corporal punishment, indicating a misalignment between pedagogical competence and child protection principles. While learners recognize teachers' contributions to their academic growth, experiences of punitive discipline undermine trust and the creation of safe learning environments. Moreover, the divergence between pupils' lived experiences and parents' perceptions highlights the need for more inclusive and participatory approaches in evaluating teacher competence. Overall, the study affirms that instructional competence extends beyond technical proficiency to encompass humane, reflective, and context-sensitive practices aligned with national standards such as the Philippine Professional Standards for Teachers (PPST) and child protection policies.

RECOMMENDATIONS

In light of these findings, it is recommended that school leaders and education policymakers strengthen teacher professional development programs with a focus on positive discipline, socio-emotional learning, and reflective practice, in alignment with Department of Education child protection policies. Capacity-building initiatives may be supported through collaborations with agencies such as the Department of Science and Technology (DOST) and the Commission on Higher Education (CHED) to integrate evidence-based pedagogies and ethical teaching standards. Schools should institutionalize participatory feedback mechanisms that systematically incorporate pupils' and parents' perspectives into teacher evaluation and school improvement planning. Furthermore, there is a need to reinforce monitoring and enforcement of policies prohibiting corporal punishment, ensuring that classroom management strategies promote respect, inclusivity, and learner well-being. At the research and extension level, State Universities and Colleges (SUCs) may develop community-based intervention programs and action research projects that support teachers in adopting innovative, learner-centered, and non-violent pedagogical approaches. Finally, future studies should expand to diverse educational contexts and integrate mixed-method approaches to further validate and enhance the understanding of instructional competence in the Philippine setting.

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Impact of Artificial Intelligence-Enhanced Learning on Critical Thinking Skills of Pre-Service Teachers: A Study of BEED Students

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ABSTRACT This study examined the relationship between artificial intelligence (AI)-driven learning tools utilization and the critical thinking skills of pre-service teachers in a Philippine state college. Specifically, it investigated the level of students' perception of AI-enhanced learning across four dimensions—adaptive, personalized, interactive, and collaborative learning—and their corresponding levels of critical thinking skills in terms of analysis, creating, and evaluating. A descriptive-comparative and correlational research design was employed, involving 146 first-year Bachelor of Elementary Education (BEED) students at Agusan del Sur State College of Agriculture and Technology. Data were collected using an adapted and validated questionnaire and analyzed using descriptive statistics and non-parametric tests, including Spearman's rho, Mann-Whitney U, and Kruskal-Wallis. Findings revealed a high level of AI-driven learning tools utilization ($M = 3.16$) and a high level of critical thinking skills ($M = 3.11$). No significant differences were observed across age and sex, indicating that AI-supported learning is inclusive and equally beneficial among diverse student groups. A statistically significant moderate positive correlation ($r = 0.574$, $p < 0.01$) was found between AI utilization and critical thinking skills, suggesting that increased engagement with AI technologies contributes to the enhancement of higher-order cognitive abilities. Regression analysis further indicated that AI utilization explains approximately 32.9% of the variance in critical thinking skills. The study concludes that AI-driven learning tools serve as effective pedagogical enablers that support student-centered and flexible learning environments in teacher education. It is recommended that higher education institutions integrate AI technologies into the curriculum, provide faculty training, and establish ethical and pedagogical guidelines to maximize their impact. Future research may explore longitudinal and experimental designs to further validate the causal effects of AI on cognitive development.

INTRODUCTION

Artificial Intelligence (AI) has emerged as a transformative force in education, enabling personalized, adaptive, and data-driven learning experiences. AI-driven tools such as intelligent tutoring systems, automated feedback mechanisms, and collaborative platforms enhance student engagement and support differentiated instruction (Holmes et al., 2019; Luckin, 2020). These innovations align with current Philippine higher education priorities, particularly the digital transformation agenda promoted by CHED and DOST.

Scholarly discourse highlights both the opportunities and risks of AI integration in education. Studies suggest that AI enhances learning outcomes by facilitating interactive and collaborative environments (Zawacki-Richter et al., 2019) and promoting higher-order thinking skills when used appropriately (Song & Kong, 2021). However, concerns have been raised regarding academic integrity, over-reliance on AI, and potential decline in independent thinking (Selwyn, 2019; Aoun, 2020; Williamson & Piattoeva, 2022). These dual perspectives underscore the need for empirical validation of AI's role in fostering critical thinking.

Despite global advancements, there remains a scarcity of localized research examining AI's pedagogical impact in Philippine teacher education. Most existing studies are situated in international contexts (OECD, 2021), with limited focus on pre-service teachers in state colleges and universities (SUCs). Specifically, there is insufficient evidence on how AI learning dimensions—adaptive, collaborative, interactive, and personalized—relate to critical thinking domains such as analysis, creation, and evaluation.

This study aims to address this gap by investigating the relationship between AI-driven learning tools and the critical thinking skills of BEED students at ASSCAT. The findings are expected to inform curriculum development, institutional policy, and faculty training programs aligned with national education and research priorities.

METHODOLOGY

Research Design

This study employed a descriptive-comparative and correlational research design to systematically examine both the relationships between variables and the differences across selected demographic groups. The descriptive component enabled a comprehensive characterization of respondents' perceptions of AI-driven learning tools and their levels of critical thinking skills, while the comparative aspect facilitated the identification of variations based on demographic factors such as age and sex.

Furthermore, the correlational design was utilized to determine the direction and strength of the association between AI utilization and critical thinking skills. This integrated approach is methodologically appropriate as it allows for both robust quantitative description and rigorous inferential analysis, thereby providing a holistic understanding of how AI-driven learning influences higher-order thinking skills among pre-service teachers within the context of Philippine higher education.

Sampling Method and Respondents

A universal sampling technique was employed, encompassing all 146 first-year Bachelor of Elementary Education (BEED) students enrolled at Agusan del Sur State College of Agriculture and Technology (ASSCAT). This approach was deemed appropriate given the manageable population size and the study's intent to achieve comprehensive coverage of the target group. The inclusion criteria were as follows: (1) currently enrolled in the BEED program, (2) with prior exposure to AI-driven learning tools as part of their academic experience, and (3) willing to participate voluntarily in the study. By including the entire population that met these criteria, the study ensured maximum representativeness, reduced the likelihood of sampling bias, and enhanced the internal validity and reliability of the findings. This methodological choice strengthens the generalizability of results within the institutional context of ASSCAT and similar state colleges and universities (SUCs) in the Philippines.

Research Instrument

The study utilized an adapted and contextualized survey instrument based on the work of Jia and Tu (2024), designed to capture both the extent of AI-driven learning utilization and the level of critical thinking skills among respondents. The instrument comprised two major sections: (1) AI-Driven Learning Tools, which included indicators on adaptive, collaborative, interactive, and personalized learning; and (2) Critical Thinking Skills, covering the domains of analysis, creating, and evaluating, consistent with higher-order cognitive processes. All items were measured using a 4-point Likert scale ranging from low to high levels of agreement to ensure clarity of responses and eliminate neutral bias. Prior to data collection, the instrument underwent content validation by subject matter experts in education and educational technology to ensure alignment with the study objectives and constructs. Additionally, reliability testing was conducted to establish internal consistency, thereby ensuring that the instrument produced stable and dependable measurements suitable for inferential analysis within the context of Philippine teacher education.

Data Collection Procedure

Prior to data collection, formal approval was obtained from the appropriate institutional authorities to ensure compliance with academic and ethical standards. The data collection process was conducted systematically to maintain rigor and reliability. Initially, respondents were given a brief orientation outlining the purpose of the study, procedures, and their rights as participants. This was followed by the administration of the questionnaires during regular class hours, ensuring maximum participation and minimal disruption to academic activities. Completed questionnaires were retrieved immediately after administration to ensure a high response rate and minimize the risk of data loss or incomplete responses. Subsequently, the collected data were subjected to preliminary screening and validation, including checks for completeness, consistency, and accuracy of responses. This structured procedure enhanced the overall quality and integrity of the dataset, thereby supporting robust and credible analysis.

Ethical Considerations

The study strictly adhered to established ethical standards for educational research in accordance with institutional and national guidelines. Prior to participation, respondents were provided with a clear explanation of the study's purpose, procedures, and their rights, after which informed consent was duly obtained. Participation was entirely voluntary, and respondents were informed of their right to withdraw from the study at any point without any form of penalty or disadvantage. To uphold data privacy and protection, confidentiality and anonymity were rigorously maintained through the use of coded identifiers, ensuring that no personally identifiable information was disclosed. All collected data were securely stored in protected files accessible only to the researchers and were utilized exclusively for academic and research purposes. These measures ensured compliance with ethical principles of respect for persons, beneficence, and data integrity, thereby safeguarding the rights and welfare of all participants.

Data Analysis

Data were analyzed using both descriptive and inferential statistical techniques to ensure a comprehensive examination of the study variables. Descriptive statistics, including frequency counts, percentages, weighted means, and standard deviations, were employed to summarize the respondents' demographic profile, as well as their levels of AI-driven learning utilization and critical thinking skills. These measures provided an overall characterization of the data and facilitated clear interpretation of trends and distributions.

For inferential analysis, non-parametric statistical tests were utilized due to the ordinal nature of the data. Specifically, Spearman's rho was applied to determine the strength and direction of the relationship between AI-driven learning tools and critical thinking skills. The Mann–Whitney U Test was used to examine significant differences between groups based on sex, while the Kruskal–Wallis Test was employed to assess variations across age groups. These statistical procedures ensured robust and appropriate analysis, enabling the study to draw valid conclusions regarding relationships and group differences within the dataset.

RESULTS AND DISCUSSION

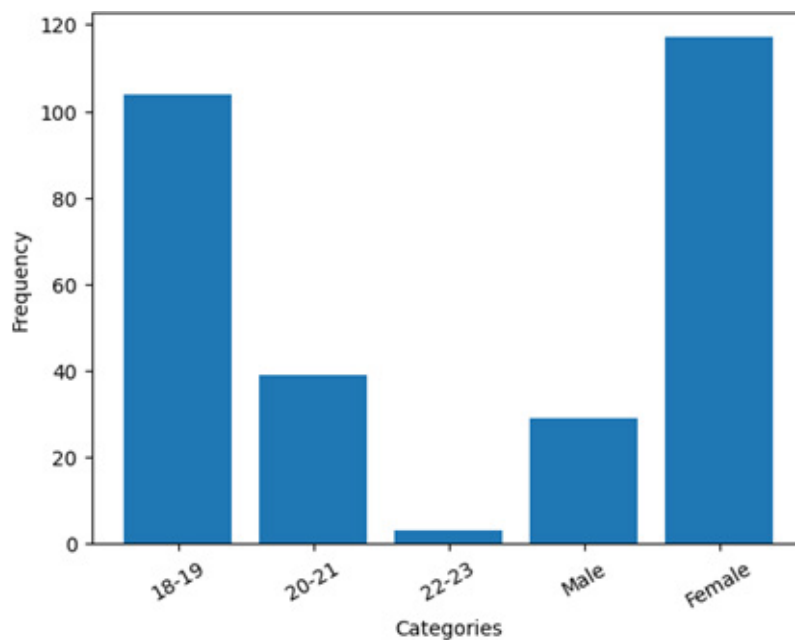
Demographic Profile of Respondents

The demographic profile of the respondents is presented in terms of age and sex. Out of 146 first-year BEED students, the majority (104 or 71.2%) were aged 18–19, followed by those aged 20–21 (39 or 26.7%), while only a small proportion belonged to the 22–23 age group (3 or 2.1%). In terms of sex, the sample was predominantly female, comprising 117 respondents (80.1%), whereas males accounted for 29 respondents (19.9%).

This distribution indicates that the respondents largely fall within the typical age range of first-year college students, suggesting a relatively homogeneous cohort in terms of developmental stage and academic exposure. The predominance of female students reflects the common gender trend in teacher education programs in the Philippines, where female enrollment is significantly higher than male participation. Such demographic characteristics may influence learning preferences, engagement with digital tools, and collaborative tendencies in academic settings.

The implications of this profile suggest that AI-driven learning interventions can be designed to cater to a digitally inclined and relatively young population, who are generally more adaptable to emerging educational technologies. Moreover, the gender distribution highlights the need for inclusive and gender-responsive instructional strategies, ensuring that both male and female students benefit equitably from AI integration. For teacher education institutions, these findings provide a basis for tailoring curriculum design, instructional delivery, and capacity-building initiatives that are responsive to the demographic realities of BEED students in Philippine state colleges and universities.

As reported by Muralidharan et al., (2023), designing age-appropriate AI learning tools requires collaboration among educators, clinicians (where relevant), families, and researchers to address developmental appropriateness, safety, and engagement across age groups. Furthermore Gender-responsive and culturally sustaining approaches should be embedded within AI education platforms to promote equity, inclusion, and positive outcomes for all learners, regardless of sex or gender identity (Liu et al., 2025; Zhang, 2024; Wąsacz et al., 2025).



Level of Impact of AI-driven Learning Tools Utilization

The level of students' perception of artificial intelligence (AI)-driven learning tools utilization is presented in terms of four dimensions: personalized learning, adaptive learning, interactive practice, and collaborative learning. Overall, the results indicate a high level of perception ($M = 3.16$, $SD = 0.35$), suggesting that BEED students generally recognize the value of AI-powered tools in enhancing their learning experience. Among the four dimensions, adaptive learning obtained the highest mean ($M = 3.20$), followed by personalized learning ($M = 3.16$), while both interactive practice and collaborative learning registered equal means ($M = 3.14$). This distribution reflects consistently positive perceptions across all domains of AI-driven learning.

Personalized learning yielded high to very high ratings, with students strongly agreeing that AI tools help them choose learning activities aligned with their interests and find relevant content that supports their learning goals. Similarly, adaptive learning results indicate that students perceive AI as responsive to their individual learning needs, particularly in providing feedback and adjusting content difficulty. Interactive practice also received high ratings, highlighting the role of AI in promoting engagement through simulations, activities, and practice exercises. Meanwhile, collaborative learning recorded some of the highest individual item means (up to $M = 3.31$), indicating that AI tools significantly facilitate peer interaction, knowledge sharing, and collaborative problem-solving.

These findings suggest that AI-driven learning tools are effective in supporting student-centered and flexible learning environments, which are essential in modern teacher education. The high perception across all dimensions indicates that AI can enhance not only individual learning pathways but also social and interactive aspects of learning. For Philippine state universities and colleges (SUCs), these results support the integration of AI technologies into the BEED curriculum as part of digital transformation initiatives aligned with CHED and DOST priorities. Furthermore, the strong performance of adaptive and collaborative learning dimensions highlights the potential of AI to develop both independent and cooperative learning skills, which are critical competencies for future educators.

Ng et al., (2023) explored teachers' AI digital competencies and twenty-first century skills, emphasizing that AI competencies enable teachers to design and implement adaptive, learner-centered instruction and to foster collaboration among students. This supports the link between AI-enabled adaptability and both individual and social learning outcomes. Likewise, Trevisan et al., (2024) discussed drivers of digital realities for ongoing teacher professional learning, including big data, AI, and learning analytics, highlighting AI-driven professional learning environments and dashboards as catalysts for collaborative practice and reflective reasoning. This underpins how AI tools can mediate collaborative professional growth and collective instructional practices, aligning with future educator competencies.

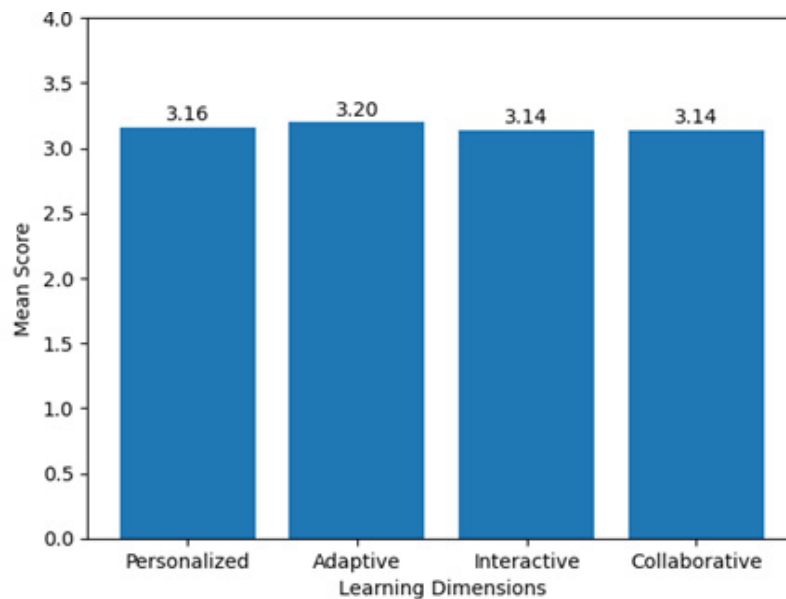


Figure 2. Level of Artificial Intelligence-Driven Learning Tools Utilization by Dimension

Level of Students Perception on Critical Thinking Skills

The level of students' perception of their critical thinking skills is presented across three domains: analysis, creating, and evaluating. Overall, the results indicate a high level of critical thinking ($M = 3.11$, $SD = 0.40$) among BEED students. Among the domains, creating obtained the highest mean ($M = 3.14$), followed by analysis ($M = 3.11$), while evaluating recorded the lowest, though still high, mean ($M = 3.09$). This distribution reflects a consistently strong self-assessment of higher-order thinking skills across all cognitive domains.

The analysis domain shows that students are capable of identifying assumptions, evaluating sources, and examining problems from multiple perspectives, with all indicators rated at a high level. The creating domain yielded the highest ratings, indicating that students are particularly confident in generating innovative ideas, adapting concepts to new contexts, and developing creative solutions. Meanwhile, the evaluating domain, although slightly lower in mean, still demonstrates that students possess the ability to assess arguments, determine the reliability of information, and distinguish between fact and opinion. The consistently high ratings across all items suggest that students perceive themselves as competent in executing complex cognitive tasks aligned with higher-order thinking skills.

These findings suggest that BEED students are developing the critical thinking competencies necessary for effective teaching practice in the 21st-century learning environment. The relatively higher scores in the creating domain indicate a strong potential for innovation and adaptability, which are essential in designing learner-centered and context-responsive instruction. However, the slightly lower mean in the evaluating domain highlights the need to further strengthen students' skills in judgment, evidence-based reasoning, and critical evaluation. For Philippine state universities and colleges (SUCs), these results underscore the importance of integrating instructional strategies—such as problem-based learning, inquiry-based approaches, and AI-supported learning tools—that continuously enhance all dimensions of critical thinking, ensuring that future educators are well-equipped for dynamic and technology-driven classrooms.

Based on the research works of Muthmainnah et al., (2022), KESGIN, (2025), Lin et al., (2022), and Yan et al., (2025), the generative AI, adaptive feedback, and AI-assisted collaboration tools have demonstrated potential to enhance critical thinking when embedded in pedagogy aligned with inquiry and problem-based tasks. AI-enabled environments can scaffold reasoning, support evidence-based argumentation, and facilitate collaborative inquiry by providing real-time feedback and structuring tasks that promote argumentation and analysis.

Table 1: Level of Students' Perception on Critical Thinking Skills.

Domain	Indicator	Mean	SD	Interpretation
ANALYSIS	Identify assumptions in arguments	3.09	0.42	High
	Evaluate credibility of sources	3.12	0.42	High
	Critique reasoning of others	3.11	0.42	High
	Analyze problems from multiple perspectives	3.08	0.42	High
	Identify cause-and-effect relationships	3.14	0.42	High
	Sub-Mean	3.11	0.42	High
CREATING	Generate innovative solutions	3.11	0.39	High
	Develop creative approaches	3.18	0.39	High
	Brainstorm new ideas	3.14	0.39	High
	Communicate creative ideas	3.12	0.39	High
	Adapt ideas to new contexts	3.15	0.39	High

Test on Significant Difference in the Perceived Level of Students AI-driven Learning Tools Utilization and Critical Thinking Skills

The test of significant difference in the perceived level of AI-driven learning tools utilization and critical thinking skills is presented based on age and sex. The results consistently show that all computed p-values are greater than the 0.05 level of significance, indicating that there are no statistically significant differences across both demographic variables. For AI-driven learning tools utilization, all dimensions—including personalized, adaptive, interactive, and collaborative learning—yielded non-significant results for both age (p-values ranging from 0.58 to 0.78) and sex (p-values ranging from 0.08 to 0.45), including the overall mean. Similarly, for critical thinking skills, all domains—analysis, creating, and evaluating—also showed non-significant differences across age and sex, with p-values ranging from 0.30 to 0.73.

These findings suggest that students' perceptions of AI-driven learning tools and their critical thinking skills are statistically comparable regardless of demographic characteristics. This implies that both younger and older students, as well as male and female respondents, exhibit similar levels of engagement with AI technologies and comparable abilities in higher-order thinking skills. The absence of significant variation indicates that demographic factors such as age and sex do not substantially influence how students perceive or benefit from AI-driven learning environments.

The implications of these findings are particularly important for curriculum design and policy development in Philippine higher education institutions, especially within state universities and colleges (SUCs). The results support the implementation of uniform and inclusive AI integration strategies, as the benefits of AI-driven learning appear to be equally accessible across diverse student groups. This reinforces the idea that AI can serve as an equitable educational tool that supports inclusive learning environments. Furthermore,

institutions may focus more on enhancing pedagogical approaches and technological infrastructure rather than differentiating interventions based on demographic variables, ensuring that all students develop critical thinking skills necessary for effective teaching and lifelong learning.

As supported by Allison et al., (2025), Adegoke et al., (2025), Yang & Jimenez-Luque, (2025), and McMahon & Firestone, (2024), the institutions can maximize AI impact by prioritizing pedagogical design (e.g., inquiry-driven, problem-based learning) and robust technological infrastructure, rather than differentiating interventions by demographic groups, to achieve broad-based development of critical thinking skills among all students.

Table 2. Test on Significant Difference in the Perceived Level of Students AI-driven Learning Tools Utilization and Critical Thinking Skills.

AI-Driven Learning Tools Utilization	p-value	Interpretation
Age		
Personalized Learning	0.58	Not Significant
Adaptive Learning	0.64	Not Significant
Interactive Learning	0.73	Not Significant
Collaborative Learning	0.78	Not Significant
Sex		
Personalized Learning	0.45	Not Significant
Adaptive Learning	0.08	Not Significant
Interactive Learning	0.14	Not Significant
Collaborative Learning	0.11	Not Significant
Critical Thinking		
Age		
Analysis	0.38	Not Significant
Creating	0.30	Not Significant
Evaluating	0.57	Not Significant
Sex		
Analysis	0.73	Not Significant
Creating	0.60	Not Significant
Evaluating	0.37	Not Significant

Test on Significant Relationship Between AI-driven Learning Tools and Critical Thinking Skills

The relationship between AI-driven learning tools utilization and critical thinking skills was examined using Spearman’s rho correlation. The results revealed a moderate positive correlation ($r = 0.574$), which is statistically significant at the 0.01 level ($p < 0.01$). This indicates that as students’ utilization of AI-driven learning tools increases, their level of critical thinking skills also tends to improve.

The positive direction of the correlation suggests that AI-driven learning tools—such as adaptive, interactive, collaborative, and personalized systems—play a meaningful role in enhancing higher-order cognitive skills. The moderate strength of the relationship implies that while AI is an important contributing factor, critical thinking is also influenced by other variables such as teaching strategies, learner motivation, and academic environment.

The implications of this finding are significant for teacher education and policy development in Philippine higher education institutions. It supports the integration of AI technologies as pedagogical enablers that can foster analytical, creative, and evaluative thinking among pre-service teachers. However, the moderate correlation also highlights the need for balanced instructional design, where AI tools are complemented by inquiry-based learning, reflective practice, and guided instruction. For SUCs, this underscores the importance of investing in both technological infrastructure and faculty capability-building programs, ensuring that AI is used strategically to enhance—not replace—students’ cognitive development.

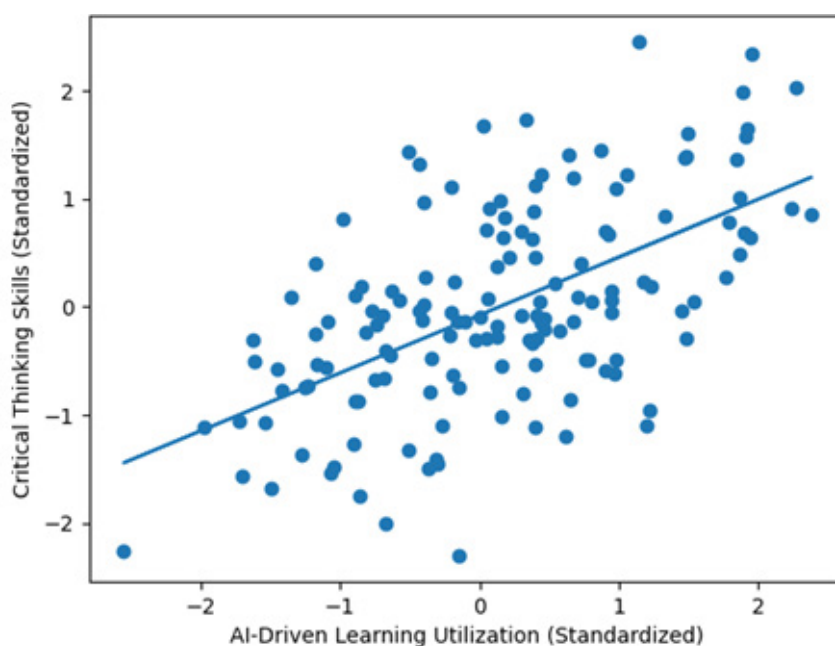


Figure 3. Scatter plot with regression line on Relationship Between AI-driven Learning Tools and Critical Thinking Skills’

CONCLUSIONS

This study established that AI-driven learning tools are significantly associated with the development of critical thinking skills among first-year BEED students. The findings revealed that students exhibit a high level of engagement with AI-enhanced learning environments across adaptive, personalized, interactive, and collaborative dimensions, alongside a high level of critical thinking competencies in terms of analysis, creating, and evaluating. Notably, the results demonstrated a statistically significant moderate positive relationship between AI utilization and critical thinking skills, indicating that increased exposure to AI-supported learning contributes to the enhancement of higher-order cognitive abilities. Furthermore, the absence of significant differences across age and sex suggests that AI-driven learning is an inclusive and equitable instructional approach applicable to diverse student groups.

Overall, the study affirms that artificial intelligence serves as a valuable pedagogical tool that supports student-centered, flexible, and interactive learning environments in teacher education. However, while AI contributes meaningfully to cognitive development, it should be strategically integrated with sound pedagogical practices to maximize its benefits. These findings provide empirical support for the integration of AI technologies in Philippine teacher education programs and underscore the need for balanced, ethical, and well-guided implementation to effectively prepare future educators for technology-driven learning environments.

RECOMMENDATIONS

Based on the findings of the study, it is recommended that teacher education institutions, particularly state universities and colleges (SUCs), strategically integrate AI-driven learning tools into the Bachelor of Elementary Education (BEED) curriculum to enhance students' critical thinking skills. This integration should be aligned with CHED's Outcomes-Based Education (OBE) framework and supported by institutional policies that promote the ethical, responsible, and pedagogically sound use of artificial intelligence in instruction.

Faculty members should be provided with capacity-building programs and continuous professional development on AI-enhanced pedagogy, focusing on the effective use of adaptive, collaborative, interactive, and personalized learning technologies. Training initiatives may be supported through partnerships with agencies such as the Department of Science and Technology (DOST), particularly under digital innovation and education technology programs, to ensure that instructors are equipped with the necessary competencies to facilitate AI-supported learning environments.

Educational administrators are encouraged to invest in technological infrastructure, digital learning platforms, and AI-enabled systems that support flexible and student-centered learning. Institutions should also establish monitoring and evaluation mechanisms to assess the effectiveness of AI integration in improving learning outcomes, particularly in the development of higher-order thinking skills. These mechanisms may include periodic assessment, learning analytics, and evidence-based policy adjustments.

Moreover, curriculum developers should incorporate inquiry-based, problem-based, and reflective learning strategies alongside AI tools to ensure a balanced approach to teaching and learning. This will help prevent over-reliance on AI and promote the development of independent reasoning, creativity, and evaluative judgment among students.

Finally, future researchers are encouraged to conduct longitudinal and experimental studies to further examine the causal effects of AI on critical thinking skills, as well as explore additional variables such as motivation, digital literacy, and instructional design. Expanding the study across different institutions and academic programs will also enhance the generalizability of findings and contribute to the growing body of knowledge on AI in Philippine higher education.

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Pre-Service Teachers in Virtual Classrooms: A Phenomenological Inquiry in a Philippine Context

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ABSTRACT The rapid transition to virtual learning during the COVID-19 pandemic significantly transformed teacher education, particularly in resource-constrained contexts such as rural Philippine state colleges. This study aimed to explore the lived experiences of pre-service teachers in implementing virtual classes in the new normal at Agusan del Sur State College of Agriculture and Technology (ASSCAT). Anchored in Moore’s Transactional Distance Theory, the research examined how disruptions in dialogue, structure, and learner autonomy influenced teaching and learning dynamics. A qualitative phenomenological research design was employed, involving ten (10) purposively selected pre-service teachers. Data were collected through in-depth interviews and focus group discussions and analyzed using Colaizzi’s (1978) method. Trustworthiness was ensured through member checking, audit trails, and reflexivity. Findings revealed that participants encountered major challenges, including unstable internet connectivity, frequent power interruptions, domestic distractions, and technological limitations. Despite these constraints, pre-service teachers demonstrated resilience through adaptive pedagogical strategies, technological improvisation, and contingency planning. These experiences contributed to the development of professional identity characterized by flexibility, emotional resilience, and context-responsive teaching practices. The study concludes that while digital inequities pose significant barriers, they also foster critical competencies necessary for future educators. It is recommended that teacher education institutions strengthen digital pedagogy integration, improve ICT infrastructure, and implement resilience-based training programs to better prepare pre-service teachers for evolving and technology-driven learning environments.

Keywords: future educators, online instruction, pedagogy strategy, transition education

INTRODUCTION

The rapid shift to virtual learning during the COVID-19 pandemic significantly transformed teacher education globally, revealing both opportunities and structural inequalities. In developing countries such as the Philippines, the transition highlighted persistent challenges related to digital infrastructure, access, and pedagogical preparedness. Pre-service teachers, as future educators, were placed at the forefront of this transformation, navigating unfamiliar digital environments while simultaneously developing professional competencies.

Globally, studies have documented challenges such as digital divide, psychological stress, and lack of pedagogical readiness among pre-service teachers (Rapanta et al., 2020; König et al., 2022). Southeast Asian contexts, including Malaysia and Thailand, report similar issues of inadequate infrastructure and low digital competence (Yusof et al., 2021; Suwannathachote & Tantrarungroj, 2020). In the Philippine setting, these challenges are exacerbated by rural disparities, unstable connectivity, and limited institutional support (Toquero, 2020; Barrot et al., 2021).

Despite these findings, there remains a critical gap in understanding the lived, day-to-day experiences of pre-service teachers in rural state colleges. Most studies adopt macro-level or quantitative approaches, overlooking the nuanced realities of teacher formation in constrained digital environments.

This study is anchored in Moore’s Transactional Distance Theory (1993), which posits that learning in distance education is shaped by dialogue, structure, and learner autonomy. In low-resource contexts, these elements are disrupted, reshaping teaching and learning dynamics. Using a phenomenological approach, this study explores how pre-service teachers at ASSCAT navigate these disruptions, develop coping strategies, and reconstruct their professional identity

Theoretical/Conceptual Framework

The research is grounded in Moore’s Transactional Distance Theory (1993), which argues that in distance education, the psychological and communicative distance between the instructor and learner are established by three variables, namely dialogue, structure, and learner autonomy. For Agusan del Sur State College of Agriculture and Technology (ASSCAT), pre-service teachers had different levels of transactional distance in the use of virtual classes during the new normal due to weak internet connection, low instructional interaction, and self-orientation learning. Drawing on this theory, the research examines how these factors influenced the lived lives, coping strategies, and pedagogical stance of ASSCAT’s future teachers, and provides us with a glimpse at viewing their adaptive approaches in terms of a digitally mediated learning environment.

Figure 1 illustrates this research’s conceptual model to follow up the pre-service teachers’ lived experience of the online class. The conceptual model illustrates the three dimensions of experiences, coping mechanisms, and insights and how they are interpreted within Moore’s Transactional Distance Theory (1993). This structure provides an apparent window through which it can be seen how ASSCAT pre-service teachers managed learning pressures in the new normal and how this impacted their professional growth.

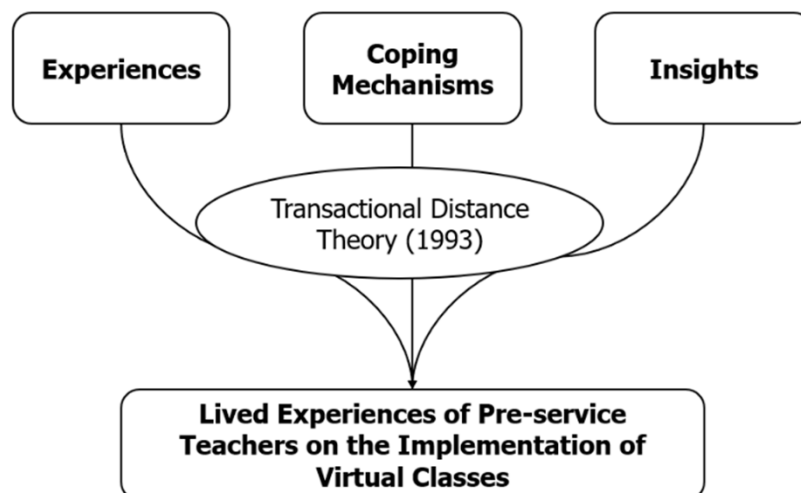


Figure 1 Conceptual Framework of the Study

METHODOLOGY

Research Design

This research used the qualitative phenomenological method to describe and explore the pre-service teachers' lived experiences during the introduction of virtual classes in the new normal. Phenomenology was used due to its ability to reveal rich, subjective meanings based on participants' perspectives, specifically to come to know social and psychological aspects of remote learning (Blankenship, 2016). Data gathering employed two tools: focus group discussions (FGDs) and in-depth interviews, both employing semi-structured protocols allowing follow-up questions and emergent data.

Participants and Sampling

Ten (10) pre-service teachers from Agusan del Sur State College of Agriculture and Technology were purposively selected based on inclusion criteria: 18–35 years old, actively attending virtual classes, and officially attached to their institution during the pandemic. Five were allocated individual interviews and five to FGDs to maintain individual depth and group processes in data generation. Division was set to enable triangulation of view and was themed towards maximizing thematic richness. Saturation was achieved when there were no new themes anymore in either of the two sets of data, in keeping with phenomenological recommendations on small, information-rich samples (Crouch & McKenzie, 2006).

Analysis of Data

Data analysis followed Colaizzi's (1978) seven-step method, ensuring transparency and rigor. Transcripts were read multiple times to extract significant statements, which were then formulated into meanings. These meanings were clustered into themes, validated through member checking, and integrated into an exhaustive description of the phenomenon. Coding was conducted manually by the researchers, with intercoder agreement established through collaborative review. Reflexivity was assured in the process through recording researcher assumptions, positionality, and possible bias, especially considering researchers were institutionally affiliated with ASSCAT.

Trustworthiness was obtained using Lincoln and Guba's (1985) measures: credibility through member validation and extended engagement, transferability using thick descriptions, dependability using audit trails, and confirmability through keeping reflexive journals. Ethical procedures were strictly followed, namely informed consent, voluntary participation, and right to withdraw. Online data collection following netiquette and health guidelines was done. The research was conducted in compliance with the Belmont Report standards of ethics, respect for persons, beneficence, and justice, and the provisions of R.A. 10173 (Data Privacy Act of 2012) to guarantee confidentiality and data protection.

RESULTS AND DISCUSSION

Experiences of Pre-service Teachers on the Implementation of Virtual Classes in the New Normal

After analyzing the responses of the participants about the experiences of preservice teachers on the implementation of virtual classes in the new normal, the following themes emerged: (1) unstable connectivity as an obstacle to pedagogical engagement (2) power interruptions and the fragility of digital instruction (3) domestic disruptions and the blurring of learning boundaries (4) technological limitations and the strain of digital minimalism.

Table 1. Major Themes and Core Ideas on Experiences of Pre-service Teachers on the Implementation of Virtual Classes in the New Normal.

Major Themes	Core Ideas
Unstable Connectivity as an Obstacle to Pedagogical Engagement	<ul style="list-style-type: none"> • increasing number of pupils absences due to poor internet connection • having struggles in understanding the lesson due to unstable connection • experiencing delays in joining virtual classes feeling pressured by the cooperating teacher when the connection is poor • transferring from one place to another in order to get a stable internet connection
Power Interruptions and the Fragility of Digital Instruction	<ul style="list-style-type: none"> • limiting the pupils in joining virtually due to abrupt power interruption • experiencing delayed in class • experiencing sudden power interruption
Domestic Disruptions and the Blurring of Learning Boundaries	<ul style="list-style-type: none"> • having pupils who get easily distracted by the things found at home • experiencing distraction from their parents • encountering noises from animals
Technological Limitations and the Strain of Digital Minimalism	<ul style="list-style-type: none"> • Experiencing lags with laptops when conducting virtual class • Feeling frustrated with the poor performance of the laptop • Having a device that failed to function during demonstrations

Unstable Connectivity as an Obstacle to Pedagogical Engagement. Participants mentioned unstable internet connection as one of the biggest hindrances to enrolling in online classes, particularly those residents in rural parts of Agusan del Sur. Beyond inconvenience, poor connection had resulted in missed classes, delayed submissions, and increased concern for academic performance. "Had to climb a hill just to receive signal, it was like seeking education," recalled one interviewee. Such challenges not only speak to infrastructural limitations but also the affective weight of being digitally excluded.

Almusharraf and Khahro (2020) found that unstable internet connection significantly affects learners' satisfaction and engagement in distance learning environments. Similarly, Sahu (2020) emphasized that digital divide in developing nations destroys level playing grounds for schooling. Despite those, respondents were adaptable in the sense that they balance timetables, pre-downloaded materials, and accessed through alternate channels, illustrating how digital adversity affected their innovation and commitment in pedagogy.

Power Interruptions and the Fragility of Digital Instruction. Intermittent power outages were an usual interruption, further habituating online learning issues. Cadets reported lagging in middle parts of synchronous classes and struggling to charge hardware, feeling even more helpless and alone. "I was ready to teach, but the blackout ruined everything." The experience highlights the susceptibility of virtual classrooms in electricity-reliant zones.

Toquero (2020) identified unpredictability of power as a significant barrier to online teaching in rural Filipino communities. In addition, Lapada et al. (2020) confirmed that power outages and weak connectivity severely restrict teaching continuity and student participation. Nevertheless, the respondents developed mechanisms to improvise through schedule adjustments, the use of backup batteries, and the adoption of asynchronous modes, demonstrating how infrastructural deficits fostered pedagogical agility and resourcefulness.

Domestic Disruptions and the Blurring of Learning Boundaries. Home setting, usually assumed to be a safe learning environment, proved to be the source of distraction and interference. Distraction by noises, lack of space, and items of domestic chores were provided by the participants as the main barriers to concentration and participation. She clarified, "I was educating while my brothers were watching TV next to me." The stories demonstrate how home lives turned into mixed spaces between home and school life, which dispersed the professional self of pre-service teachers.

Baticulon et al. (2021) had defined a sub-standard home learning environment as being one of the key determinants that influence the motivation and psychological well-being of students in online learning. In the same vein, Cleofas and Rocha (2021) pointed to the fact that socio-economic constraints of Filipino families make learning discontinuous. The above notwithstanding, participants proved self-regulation by negotiating timetabling, improvisational learning spaces, and compartmentalizing minds by role, proving their resilience to change and survive.

Technological Limitations and the Strain of Digital Minimalism. Device constraints were not as much technical problems as indicative of deeper digital inequities. Most of the participants had cell phones with storage and computing capacity deficits that limited their use of equipment like Zoom and Moodle. One participant offered, "My phone heats up after 30 minutes of class, I just tough it out." This is one way to see how technology deficiency influences not only delivery of instruction, but also physical comfort and endurance.

Barrot et al. (2021) established that poor access to stable devices is one of the major hindrances to successful online learning in the Philippines. In addition, Coman et al. (2020) highlighted that digital technologies play a vital role as determinants of learners' engagement and quality in educational environments online. Students bridged digital constraints through clearing device storage, sharing the same device, and using devices with limited bandwidth, demonstrating how digital constraints influenced their ingenuity and justified their commitment to teaching as a calling.

CONCLUSION

This study explored the lived experiences of pre-service teachers in implementing virtual classes within a resource-constrained context. Findings revealed that participants encountered significant challenges, including unstable internet connectivity, power interruptions, domestic distractions, and limited technological resources. Despite these constraints, pre-service teachers demonstrated resilience through adaptive pedagogical strategies, technological improvisation, and contingency planning. Anchored in Moore's Transactional Distance Theory, the study highlights how disruptions in dialogue, structure, and learner autonomy reshape teaching and learning dynamics in virtual environments. Importantly, these experiences contributed to the transformation of participants' professional identity, emphasizing adaptability, emotional resilience, and context-responsive teaching practices. The study concludes that while digital inequities pose substantial barriers, they also foster critical competencies necessary for future educators. These findings underscore the need for teacher education institutions to strengthen digital pedagogy, enhance institutional support systems, and promote equity-driven and resilience-oriented training models to ensure effective preparation of pre-service teachers in evolving educational landscapes.

RECOMMENDATION

Based on the findings, it is recommended that teacher education institutions strengthen the integration of digital pedagogy and blended learning approaches within pre-service training programs. Higher education institutions, particularly state universities and colleges (SUCs), should invest in reliable ICT infrastructure, including internet accessibility, power backup systems, and provision of appropriate learning devices to address digital inequities. Faculty development initiatives must be implemented to enhance instructors' competencies in technology-mediated instruction and adaptive teaching strategies.

Moreover, institutions should incorporate resilience-based and contingency-oriented training to prepare pre-service teachers for disruptions in teaching and learning environments. Strengthening mentoring and supervisory support systems is also essential to guide students in navigating virtual teaching contexts effectively. Finally, future research is encouraged to examine the long-term impact of virtual teaching experiences on professional identity development and teaching effectiveness, particularly in low-resource educational settings.

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