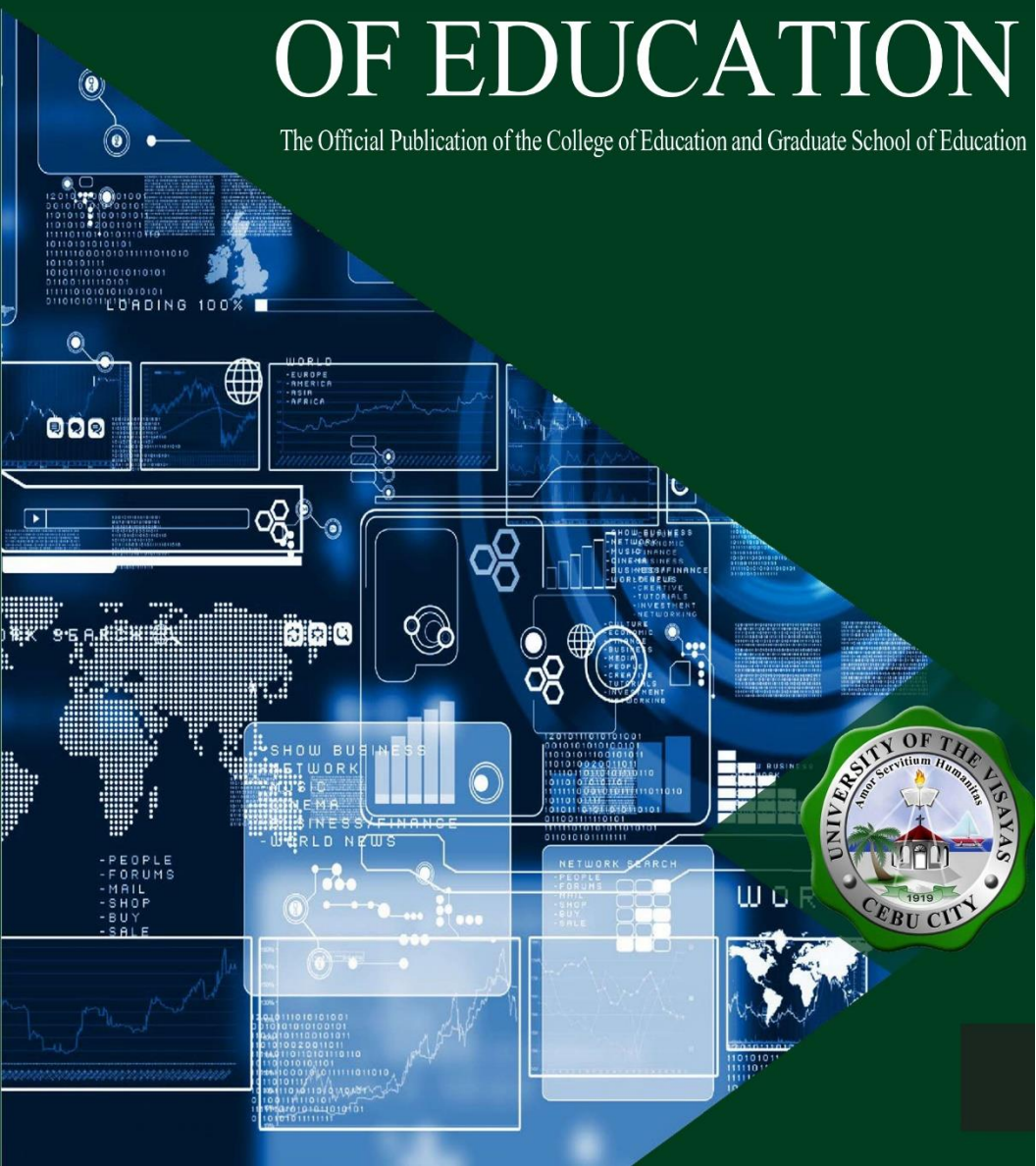
E-ISSN: 3082-303X
P-ISSN: 3082-2963
Volume 4 No. 2
July - December 2024

JOURNAL OF EDUCATION

The Official Publication of the College of Education and Graduate School of Education



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E-ISSN: 3082-303X
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This is published semi-annual by:
College of Education and Graduate School of Education
University of the Visayas, Cebu City

EduHeart Book Publishing
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Imus City,Cavite, Philippines
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MESSAGE FROM EDITOR-IN-CHIEF

Dear Readers,

It is an honor and a privilege to serve as Editor-in-Chief of the University of the Visayas Journal of Education. This publication aims to provide teachers, students, and other scholars in the field of education to share good practices in research, teaching, and learning. In recent years, the landscape of education has increasingly evolved in diversifying effective classroom practices. Interestingly, it presents challenges and exciting opportunities to learn and relearn the dynamics of teaching that fosters collaboration, transformation and innovation. This includes teaching in culturally diverse classroom, AI use in educational frameworks, academic compliance, arts and sciences, language learning, multidisciplinary contexts, education management and leadership. Thus, the core of this publication offers a wide array of meaningful insights and perspectives in rethinking and reshaping the future of education. The papers presented in this issue explored many aspects of learning which are deemed vital in transforming classroom climate and educational settings. I hope that this journal can meaningfully add value to good practices in teaching and learning. I fervently hope that as educators, policy makers, and researchers, we continue to endeavor and explore innovative elucidations that can help address the evolving needs of our students.

Finally, I would like to express my sincere gratitude and appreciation to the editorial board for their commitment to excellence, hard work and expertise in curating the papers for this issue. Your contribution in shaping this journal had definitely offered a powerful and evocative space that created teaching a commanding tool in improving students' lives. I hope that this journal continues to contribute meaningfully to the advancement of research, teaching, and learning practices.

Dr. Junifer Abatayo
Bahrain Teachers College
University of Bahrain
Kingdom of Bahrain

JOURNAL OF EDUCATION GUIDELINES

The Journal of Education is produced semi-annually, a double-blind, and peer-reviewed publication that aims to offer significant and innovative perspectives on education systems, learners, instructors, and information and educational technology to a global readership.

AIMS AND SCOPE

The Journal of Education is an interdisciplinary journal that undergoes peer review. The main purpose of these journals is to serve as a platform for sharing high-quality research, innovative practices, and stimulating discussions in the areas of education, and information and educational technology within the diverse Asian context. The journal aims to promote collaboration and the sharing of knowledge among researchers, educators, practitioners, and policymakers to tackle the complex challenges and opportunities in these interconnected fields.

This also aims to discover innovative studies in educational philosophy, pedagogy, and practice, with a focus on Asian perspectives and situations. Examine novel teaching approaches, the creation of educational programs, and educational regulations that improve learning results and educational systems. Promote dialogues regarding inclusive education, continuous learning, and the integration of emerging technology in educational environments. It also focuses on reflective teaching, motivation, and assessments which are relevant to educators in the 21st century.

TYPES OF ARTICLES PUBLISHED

The welcomes submissions that fit under the following areas:

1. Research articles based on original investigations.

A primary research report is authored by individuals who are directly engaged in the execution of the research investigation. The researchers delineate their work in the report through five principal sections. In addition, it is accompanied by an abstract, a list of cited sources, and tables/figures. The primary components of its fundamental structure should include: The structure of the study includes five main sections:

a) Introduction,
b) Methods,
c) Results,
d) Discussion, and
e) Conclusions.

The introduction provides an overview of the pertinent literature, theoretical underpinnings, framework, and importance. The methodology includes the study's framework, individuals involved, tools utilized, processes followed, analysis of data, and maintenance of data. The results section provides a comprehensive presentation of the collected data and findings, while also addressing the study questions. The discussion section analyzes the findings in connection to the theoretical literature and framework. Ultimately, the conclusions section presents the overarching findings and proposed suggestions.

The Original Research Report typically consists of approximately 8,000 words, without including references, tables, and figures. The maximum allowable word count for the abstract is 200 words. Compliance with the APA 7th edition requirements is required for formatting, references, and citations.

2. Theoretical Analyses

A theoretical review is a methodical examination and integration of pertinent literature about a fundamental subject in the field of education. It offers a thorough overview and evaluative examination of scholarly literature, elucidating the status of research or the specific subject of study. The theoretical review should provide insights for practical application and analyze the consequences for educational practice. It offers insights on the future direction of the field and the corresponding areas of research. The components of the theoretical review include:

a) Introduction,
b) Method,
c) Review and Critique of the Research Literature, and
d) Conclusions and Recommendations.

The introduction defines the essential principles and scope of the review. The strategy describes the specific steps that are taken. The review section provides an explanation of the systematic review results. The critique of research literature looks at the underlying themes, omissions, and trends in the literature. The conclusions and suggestions section summarizes the findings and identifies topics for future research and program enhancement.

It is strongly advised to include at least 20-30 primary research articles in the analysis of the theoretical review. The theoretical review is planned to be 10,000 words, excluding references, tables, and illustrations. The abstract should have a maximum of 200 words. The document must be formatted, referenced, and cited in accordance with the APA 7th edition criteria.

3. Papers on Education Policy

The Education Policy Paper is an evidence-based document that specifically addresses a policy matter in the field of education. This document offers an overview of the current policy landscape that influences education and students. The study examines the problems and challenges that arise in the process of developing and expressing policies, drawing on existing theoretical and/or implementation research. The essay explores the rationales behind the need to examine, revise, or develop policies. The Education Policy Paper is divided into four sections:

a) Introduction,
b) Method,
c) Policy Analysis, and
d) Conclusions and Recommendations.

The introduction delineates the paper's goals, the relevant circumstances, and the specific topic or issues being tackled. This method outlines the criteria by which policy options can be evaluated.

The policy analysis part provides the underlying research for suggested policy actions, including the assessment, modification, creation, or discontinuation of policies. The conclusions and recommendations section offers a concise overview of the research and suggests specific measures for enhancing policy.

An Education Policy Paper typically consists of approximately 8000 words, without including references, tables, and illustrations. The abstract must not exceed 200 words. The adherence to the APA 7th edition criteria is required for the formatting, referencing, and citation of the document.

4. Case Analyses

Developing a case analysis necessitates a methodical and thorough approach to comprehending and assessing a specific circumstance or problem. When crafting paragraphs for a case analysis, it is essential to follow a meticulously organized approach to guarantee lucidity and logical flow. Below is required parts for organizing a case analysis:

a) Introduction,
b) Background,
c) Problem Statement,
d) Analysis,
e) Options and Alternatives,
f) Recommendations,
g) Implementation Plan,
h) Conclusions and References.

The introduction clearly outlines the objectives of the work, the pertinent context, and the specific subject or concerns being addressed. This method delineates the criteria by which policy options can be assessed. The policy analysis component conducts in-depth research to support proposed policy actions, encompassing the evaluation, alteration, formulation, or termination of policies. The conclusions and recommendations section provides a succinct summary of the research findings and proposes specific actions to improve policy.

A Case Analysis normally has roughly 8000 words, exclusive of references, tables, and graphics. Strict adherence to the rules outlined in the APA 7th edition is necessary for properly formatting, referencing, and citing the text.

JOURNAL OF EDUCATION STATEMENTS

The Journal of Education is committed to maintaining the utmost integrity in research and publication by adhering to the highest ethical standards. Authors, reviewers, and editors are required to follow norms that promote honesty, openness, and responsibility in the scientific publishing process.

Authors must guarantee the originality of their manuscripts and confirm that they have not been previously published elsewhere. It is necessary to give proper recognition to all sources and contributions, and any possible conflicts of interest must be openly reported. Plagiarism in any manifestation is categorically forbidden, and authors are strongly advised to comply with appropriate citation protocols. Acceptable result of plagiarism using the turn-it-in software is 15%.

Reviewers play a key role in upholding the quality and integrity of the publication process. The individuals are anticipated to carry out impartial and objective assessments of the submissions that have been submitted. Reviewers are required to openly declare any possible conflicts of interest and maintain strict confidentiality regarding all manuscripts. Authors greatly appreciate constructive feedback that aids in the improvement of their work.

The editors of the Journal of Education are dedicated to upholding objectivity and justice throughout the editorial process. The editorial judgments are determined by the excellence, importance, and novelty of the work, without considering the writers' affiliations or backgrounds. Manuscripts will be treated with confidentiality by editors, who will refrain from divulging any submission details without appropriate authorization.

The journals strictly uphold the principles of responsible and ethical research. Any type of research misconduct, such as data fabrication, falsification, or plagiarism, will be addressed with utmost seriousness. Authors are required to adhere to applicable ethical principles and standards, which encompass getting informed consent for research involving human subjects and upholding the rights and privacy of individuals.

The primary objective of the Journal of Education is to establish a reliable forum for the interchange of knowledge and ideas. Our objective is to foster trust, integrity, and the utmost ethical standards in the fields of education, business, and technology development by strict adherence to these ethical rules. Noncompliance with these ethical principles may lead to manuscript rejection, retraction of published publications, or other suitable measures in accordance with established ethical rules and standards.

AUTHOR'S DATA AVAILABILITY STATEMENT

Authors submitting manuscripts to the Journal of Education are encouraged to include a Data Availability Statement as part of their commitment to transparency and reproducibility.

The statement should clearly explain whether the data supporting the research conclusions given in the publication are available or not. Authors are strongly encouraged to provide, when asked, the datasets, code, or other crucial resources needed to reproduce and confirm the stated findings. If relevant, the Data Availability Statement should encompass details regarding the whereabouts, ease of access, and any limitations pertaining to the data's accessibility. The journal highly regards the transparent and accountable dissemination of research data, which enhances the credibility and strength of scholarly work in the various fields of education, business & public administration, and Information and Educational technology. Authors are advised to follow established guidelines for data management and sharing, promoting a culture of transparency and cooperation among scholars. Peer Review Policy

A thorough peer review procedure is implemented, consisting of three stages: adherence to submission requirements, preliminary screening, and a comprehensive evaluation by a minimum of 2 referees. Every stage is carried out subsequent to the anonymization of each article.

Peer Review Process

1. The submitted articles will be subjected to a rigorous 3-stage screening process and a double-blind review procedure.

2. The entire procedure will require approximately 4-8 weeks. Authors are required to promptly communicate with the journal management team during the entire process.

3. Stage 1 will assess the submission for compliance with the requirements of JE, as well as for any resemblances to other works and instances of plagiarism.

4. Stage 2 is an initial screening process to assess the suitability of the paper for peer review.

5. Stage 3 represents the comprehensive peer review process. In the event of conflicting opinions among the reviewers, an additional peer will be invited to evaluate the manuscript.

6. Submitted articles have the possibility of being accepted, accepted with modifications pending, or rejected at any of these three stages. The reviewers' decision will be accompanied by a rationale for the decision.

7. Accepted authors will be requested to make revisions to their works in accordance with the feedback and recommendations provided by the reviewers.

PUBLICATION PROCESS FLOW

The Journal of Education adheres to a systematic flow that was adapted from the Philippine Journal for Education Studies with a slight modification.

1. Submission:

Authors submit their research manuscripts via email at: journalofeducation@uv.edu.ph. Submissions are expected to adhere to the journal's guidelines for manuscript preparation and submission.

2. Initial Review:

Upon submission, the editorial team conducts an initial review to check for adherence to the journal's guidelines and to ensure the manuscript's alignment with the journal's scope and focus. Manuscripts that do not meet the journal's basic requirements may be returned to authors for revision or rejected at this stage.

3. Peer Review:

Manuscripts that pass the initial review are sent out for a double-blind peer review process. The journal typically engages expert reviewers with relevant expertise in the subject area of the manuscript. Reviewers evaluate the manuscript for its quality, originality, methodology, significance, and contribution to the field.

4. Reviewer Reports:

Reviewers provide detailed reports assessing the strengths and weaknesses of the manuscript. They may recommend acceptance, revision, or rejection, and they provide constructive feedback to help authors improve their work.

5. Author Revisions, If Necessary

Authors receive feedback from reviewers and the editorial team. If revisions are required, authors are typically given the opportunity to address the reviewers' comments and make necessary changes to their manuscript.

6. Editorial Decision:

The editor-in-chief, in consultation with the editorial board, makes the final decision regarding acceptance, rejection, or the need for further revisions. Authors are informed of the decision along with the reviewers' comments and feedback.

7. Proofreading and Copyediting:

Accepted manuscripts go through proofreading and copyediting to ensure language clarity, style consistency, and proper formatting.

8.Publication:
Once the manuscript is finalized and the author is satisfied with the proofs, the article is published in the Asian Journals.

9.Open Access:

The journal adheres to an open access model, making the published content freely accessible to a global audience.

10.Ethical Considerations:

The journal takes issues of research integrity and ethical conduct seriously. Plagiarism and research misconduct are rigorously monitored, and appropriate action is taken if violations are discovered.

SUBMISSION GUIDELINES

Author's Instructions

"We appreciate your decision to submit your manuscript to the JE. These guidelines will guarantee that we possess all the necessary components, enabling your paper to progress seamlessly through the processes of peer review, production, and publication. Kindly allocate some time to thoroughly read and adhere to the instructions, since this will guarantee that your paper aligns with the journal's stipulations."

Style Guidelines

1. The Journal of Education accept papers written in English and Filipino.

2. Use bold Times New Roman font with a font size of 12 for the title. Apply capitalization to all proper nouns and omit the use of a period at the conclusion of the title.

3. The authors of the manuscript should have made significant contributions to the intellectual content of the work, including the conception, design, development, analysis, and critical. writing. Upon submission of the manuscript, all co-authors are expected to take responsibility for their contributions and have given their consent to the final version of the manuscript and its submission to the JE.

4. All headings must be formatted in Times New Roman with a font size of 12. Apply capitalization to the initial letter of proper nouns. To differentiate between the various levels of headers, adhere to following instructions:

a. First-level titles, such as Introduction and Conclusion, should be formatted in bold.
b. Second-level heads should be formatted in bold italics.
c. Third-level and Fifth-level heads should be formatted in italics.

5. The abstract, acknowledgments, and main body of the essay should be formatted using Times New Roman font, size 12, and double spacing.

6. The abstract should be placed on a distinct page and must not exceed 250 words. The abstract for the JE should be organized into the following sections/headings:

a. Introduction (providing a concise overview of the conceptual foundations, purpose, research aims, and significance);
b. Methodology (describing the design and main methodologies employed);
c. Results (presenting the findings that answer the research aims); and
d. Conclusions.

Guidelines for Submitting

7. Keywords facilitate the process of users finding your article. Please provide 5 keywords

for your work.

8. It is necessary to adhere to the APA 7th edition requirements when it comes to referencing and citations, as well as the formatting of tables and figures. Apply Times New Roman typeface with a font size of 12 for them as well.

9. The manuscript should adhere to a consistent single-column layout across the entire document.

10. The manuscript should have a minimum margin of 2.5 cm (1 inch) on all pages.

11. The footers and headers should only provide page numbers, with no further content or text.

12. Tables and figures in accordance with the APA 7th edition style guide should be added accordingly into the paper. The titles in the table should be written on top while the figure should be written below it.

13. The manuscript must include explicit authorization for third-party content, such as photographs, pictures, texts (e.g., stories, poetry, music), videos, and similar items.

14. The acknowledgment section should include the names of the funders and grant-giving entities that provided financial support for the research or study. The following statement can be utilized for this purpose: "This endeavor received financial backing from the [Funding Agency] through Grant [number xxxx]." Collaborators who have granted permission for the use of third-party content can also be acknowledged in this section.

15. The JE adheres to the formatting requirements outlined in the 7th edition of the American Psychological Association Publication Manual. These guidelines include the structure and presentation of manuscripts, tables, figures, citations, and references in scientific and scholarly publications. For further details, please consult: https://apastyle.apa.org/

16. For queries and clarification, please email journalofeducation@uv.edu.ph

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JOURNAL OF EDUCATION, 2024
Vol.4 No.2 E-ISSN: 3082-330X
P-ISSN: 3082-2963

A Study of Factors Impacting Student Success in State Universities in the Philippines through Multivariate Regression Analysis

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ABSTRACT

This study aimed to unravel the intricate relationship between various factors and student success in state universities using multivariate regression analysis. By examining a comprehensive set of variables—including learner factors, teacher factors, learning facilities, parental guidance, curriculum, lessons, and community—the study sought to identify the key determinants that significantly influence academic success. Data were collected through online surveys from 100 state university students. The findings revealed that a combination of multiple factors, rather than relying solely on community, learning facilities, and parental guidance, is necessary to effectively improve academic performance. While community, learning facilities, and parental guidance may correlate with GPA, they are not the sole predictors of academic performance. To address broader educational outcomes and improve students' GPAs, it is crucial to consider a wide range of influencing factors, including mediating variables.

Keywords: Academic performance, influencing factors, multivariate regression analysis, student success, state universities

INTRODUCTION

Every educational institution is focused on enabling student achievement because education has a transforming effect on how people and society are shaped. State universities and colleges serve as effective catalysts, fostering the knowledge and skills required to produce a workforce that is competent and productive. Even amid the significant investments made in higher education, however, the complex network of student performance needs thorough examination and comprehensive evaluation. State colleges and universities have a big impact on students' academic and career goals. Policymakers, educators, and administrators need to have a deep grasp of the factors that influence student accomplishment in order to develop interventions and methods that work. The study aims to investigate and reveal the underlying ideas by utilizing multivariate regression analysis to identify the factors influencing student achievement in state universities and colleges.

Recent studies have yielded important new information about the variables affecting college student achievement. For instance, grit, resilience, and mentality are examples of non- cognitive variables that are important in predicting academic achievement and perseverance (Robbins et al., 2018). These results emphasize the importance of taking psychological characteristics of pupils into account in addition to standard academic variables. Moreover, socioeconomic characteristics have been found to be important indicators of student achievement. Students from lower-income families encounter additional difficulties because of financial limitations, restricted access to resources, and small support systems, according to a study by Hurwitz and Lee (2020). Ensuring equitable possibilities for success in higher education requires addressing these challenges. The function of institutional support services has drawn more notice lately.

Breland et al.'s study from 2021 shown the beneficial effects of academic support services on student retention and graduation rates, including mentorship, tutoring, and extra teaching. Effective advising techniques have also been demonstrated to improve degree completion and student performance (Sawyer et al., 2022). In order to improve student engagement, retention, and graduation rates, high-impact practices—such as undergraduate research, internships, and service-learning opportunities—are essential, according to a study by Kuh et al. (2020). This emphasizes how important it is to give students a variety of chances for hands-on learning and skill development.

Furthermore, emphasis has been placed on the significance of inclusive and interesting teaching methods. Student achievement and engagement are positively impacted by student- centered teaching methods, active learning techniques, and supportive classroom environments, according to a recent meta- analysis by Feldman et al. (2021). Also, it is impossible to disregard how technological improvements affect students' progress. Chen and Lambert's (2021) study emphasized how online learning environments and educational technologies support student engagement, personalized learning, and resource access. Studying the effects of hybrid or entirely online instructional methods on student achievement in the digital era is vital, since more and more institutions embrace these models.

Achieving student success in state universities and colleges is the most important objective, but it's also critical to understand the complex relationships between the different components that contribute to that achievement. Previous research has identified a variety of factors that affect student accomplishment; however, there has not been a comprehensive analysis of the combined effects and relationships between all these variables. Additionally, considering the evolving nature of higher education—which includes the

growing importance of non-cognitive skills, technological advancements, and high-impact practices—it is imperative to evaluate their effect on student performance. Defining the fundamental concepts and identifying the key elements affecting student success in state universities and colleges is necessary, as is keeping in mind how they interact and how higher education is changing.

The results of this study provide valuable insight into the relative significance of each factor and how they interact to affect student performance in state universities. Policymakers, educators, and administrators can create evidence-based practices and policies that support student achievement and equity in higher education by identifying their key factors and measuring their impact.

OBJECTIVES

This study aimed to determine the influence of several factors affecting students' academic performance in State Universities. This will give evidence to the policy-making body and the faculty members of the University on how to strengthen the program delivery.

Specifically, this study aims to:

1. identify which of the following variables significantly influence the Academic Performance of the students in State Universities:

(a) Learner factor, (b) Teacher factor, (c) Learning Facilities, (d) Parental Guidance (e) Curriculum (f) Lessons and (g) Community.

2. determine the explained variance of the seven variables that influence the Academic

Grade of students in State Universities; and to

3. generate a theory/model on the academic success of state university students based on the results of the study.

METHODOLOGY

Research Design

In this study, a survey research design was employed to investigate the impact of the identified factors on the academic performance of state university students. The study aimed to determine which of these factors significantly contributes to students' academic performance.

Population

The participants in this study were third-year college students attending a State University in Southern Leyte. These students represented the five colleges of the University, namely the College of Engineering, College of Technology, College of Criminal Justice, College of Hospitality, and College of Computer Studies. Third-year students were selected because they have already undergone and adapted to their academic life in higher education. Moreover, this group has established a stable emotional and academic performance and has recently experienced the flexible learning program offered by the University. They were chosen because they have completed two years of their academic program, providing them with sufficient experience to answer the questions related to the relationship between student success and the various factors that influence it.

Sample, Sampling Procedure, and Sample Size

The sample for this study consisted of individuals who were enrolled in the University and belonged to the target population. The researchers utilized a purposive sampling technique, also known as judgmental, selective, or subjective sampling. In this method, the sampling units were chosen based on the researcher's judgment. The respondents were selected based on specific criteria, which included being a third -year student and being enrolled in the university during the data collection period, which was the second semester of 2022-2023.

Research Environment

The research was carried out at the Southern Leyte State University-Main Campus, which is the sole university in the province of Southern Leyte. This campus is situated in Sogod, Southern Leyte.

Research Instrument

The research instrument used in this study was adapted from Branzuela et al. (2022) and comprised three sections. The first section included filtering questions, such as (a) whether the respondents were currently enrolled in the semester at SLSU and (b) whether they were third- year students. The second section focused on gathering the demographic profile of the respondents. Lastly, the third section consisted of

25 questions that measured various factors, including the learner factor, teacher factor, parental guidance, lessons, curriculum, community, and learning facilities. Each item in this section was measured using a five-point Likert scale. The reliability of the research instrument was assessed using Cronbach Alpha, which revealed a high level of reliability. The constructs measured exhibited a minimum value of .780 and a maximum value of .842.

Data Collection

Primary data was collected through surveys administered to students focusing on demographics, academic performance, engagement, support services, and institutional resources. The data for this study was taken from the respondents through the online survey. On the other hand, students' grades were the basis for their academic performance hence it was taken from the registrar's office following the standard process for acquiring such data. All data gathered were asked for permission from the registrar, deans, chairpersons, and Teachers. The questionnaire links, in Google Forms, were disseminated to the students with the help of the teachers

Ethical Considerations

High ethical standards were upheld in this research on factors impacting student success in state universities and colleges. Participants were given the opportunity to make informed decisions and ask questions about their involvement. Strict adherence to confidentiality and to authorized researchers. To protect participant anonymity measures such as using pseudonyms or aggregating data were implemented during the reporting of findings. Data was retained for an appropriate period and then securely destroyed in compliance with data protection regulations and institutional policies. These ethical considerations foster valuable insights while maintaining trust and integrity throughout the research process.

Data Analysis Technique

The main goal of this study was to determine the factor that could affect the academic performance of students in state universities. To analyze the data to answer the research question of the study, multiple linear regression was employed. The inferential analysis was used to determine the factors that influence the academic performance of the students.

A p-value of less than 0.05 in the regression analysis indicates a significant influence of the factor identified in this study on the Academic Performance of the students. Prior to multiple regression analysis, statistical assumptions such as

(1) linearity,
(2) homoscedasticity,
(3) independence of errors,
(4) normality, and
(5) independence of independent variables were met (CFA, 2022

Scope and Limitations of the Study

This study focuses on quantitative methodology. Hence, understanding the students' in depth perceptions regarding this study's results is not covered. Furthermore, this study focuses on the perspectives and students in a Philippine state university.

RESULTS AND DISCUSSION

Table 1: Descriptive Statistics of Student's Perspective on the Influence of Learner Factors on Academic Performance

Ho: There is no significant relationship between student's GPA and	Correlation Coefficient	Interpretation
Learner Factor	-0.153 ns	Very Weak Negative Correlation
Teacher Factor	-0.176 ns	Very Weak Negative Correlation
Learning Facilities	-0.207*	Weak Negative Correlation
Parental Guidance	-0.238*	Weak Negative Correlation
Curriculum	-0.248*	Weak Negative Correlation
Lesson Design	-0.305**	Weak Negative Correlation
Community	-0.286**	Weak Negative Correlation

ns – not significant **significant* ***highly significant*

A significant relationship exists between a student's GPA and various factors, including learning facilities (-0.207), parental guidance (-0.238), curriculum (-0.248), lesson design (-0.305), and community (-0.286). Furthermore, these factors exhibit a negative correlation with the student's GPA. This implies that when learning facilities are of high quality, there is adequate parental guidance, the curriculum and lesson design are well structured, and the community environment is favorable, the student's GPA tends to increase. The quality of Learning facilities (-0.207) has a negative correlation with a student's GPA. When learning facilities are of higher quality, providing better resources and a conducive learning environment, it tends to positively influence the student's academic performance. There is also a negative correlation between parental guidance (-0.238) and GPA which suggests that when students receive adequate guidance and support from their parents or caregivers, it tends to have a positive impact on their academic performance. As to Curriculum (-0.248), the negative correlation implies that a well-structured and comprehensive curriculum has a positive association with a student's GPA. The negative correlation between lesson design (-0.305) and GPA suggests that well designed and effective lessons contribute positively to a student's academic performance. The Community (-0.286) also has negative correlation which indicates that a favorable community environment can have a positive influence on a student's GPA.

It is important to note that the observed significant relationship and negative correlation between a student's GPA and factors such as learning facilities, parental guidance, curriculum, lesson design, and community are based on correlation analysis. Correlation examines the association between variables, but it does not establish a causal relationship or predict the effect of one variable on another. To better understand and predict the impact of these factors on a student's GPA, a regression analysis was considered.

Table 2: Descriptive Statistics of Student's Perspective on the Influence of Learning Facilities on Academic Performance

Model		Coefficients[a] Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Parental Guidance	.288	3.473
	Curriculum	.348	2.873
	Lesson Design	.088	11.421
	Community	.063	15.981
		.163	6.127

Tolerance values close to 1 indicate low collinearity, while values close to 0 indicate high collinearity. Generally, a tolerance value below 0.1 is a cause for concern. On the other hand, VIF values greater than 1 indicate multicollinearity. A common rule of thumb is that VIF values above 5 or 10 suggest high multicollinearity.

The tolerance and VIF values indicate that the variables "curriculum" and "lesson design" exhibit high multicollinearity in relation to the dependent variable, which is the GPA. In this case, it implies that these three variables are highly correlated with each other, making it difficult to discern the individual impact of each variable on the GPA. When multicollinearity is present, it becomes challenging to accurately estimate the contribution of each independent variable to the dependent variable. Additionally, it increases the uncertainty of the model's predictions and can potentially affect the validity of the results. To address this issue, it is advisable to consider potential solutions, such as excluding one or more highly correlated variables from the analysis. In this case, the variables "lesson design" and "curriculum" were removed, as they exhibit the highest multicollinearity. By reducing multicollinearity, more reliable estimates of the effects of individual variables on the GPA can be obtained, thereby enhancing the overall validity of the regression analysis.

Table 3: Descriptive Statistics of Student's Perspective on the Influence of Parental Guidance on Academic Performance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig,
1	Regression	.846	3	.282	.398	.755[b]
		67.971		.708		
	Total		99			

a. Dependent Variable: GPA
b. Predictors: (Constant), Community, Parental Guidance, Learning Facilities

Table 4: Descriptive Statistics of Student's Perspective on the Influence of Teacher Factor on Academic Performance

Coefficients[a]

Model	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
(Constant)		8.101	.000		
Learning Facilities	-.083	-.472	.638	.336	2.977
Parental Guidance	.140	.833	.407	.362	2.759
Community	-.112	-.664	.508	.363	2.754

a. Dependent Variable:

The ANOVA table provides valuable insights into the relationship between the variables; community, parental guidance, learning facilities, and GPA. Based on the statistical analysis, it is evident that these factors do not have a significant impact on a student's GPA.

When a factor is deemed "not significant," it means that there is no evidence to suggest a meaningful association between that factor and the dependent variable—in this case, GPA. In other words, variations in the community, parental guidance, and learning facilities do not contribute significantly to differences in student GPAs.

Based on the study findings, there is a possibility that good learning facilities are associated with higher Grade Point Averages (GPAs) among students. However, it is important to note that learning facilities alone cannot be considered as the sole determinant of a student's GPA. The observed correlation between learning facilities and GPA might be influenced by a third factor, such as the school budget or the mode of learning, which affects both variables simultaneously. In a conceptual sense, the learning environment encompasses various components and activities that contribute to the process of teaching and learning. As a result, it involves multiple variables that can directly or indirectly impact students' academic performance. Therefore, when examining the relationship between learning facilities and a student's GPA, it is crucial to consider potential confounding factors that may affect both aspects, such as the school budget and the mode of learning. The availability of resources, including learning facilities, is often influenced by the school budget. Schools with larger budgets may have superior infrastructure and more advanced learning facilities. Moreover, if the school budget also affects the overall quality of education and the additional resources provided to students, it could indirectly influence their GPA. Studies have indicated that educational resources play a significant role in influencing student performance (Adebayo, Ntokozo, & Grace, 2020).

The mode of learning can vary between schools, with some offering traditional classroom instruction while others adopt online learning methods. Schools with better learning facilities are more likely to incorporate innovative teaching approaches and effective use of technology, which could have an impact on students' academic performance, including their GPA. The effectiveness of learning facilities and, consequently, the students' GPA can be influenced by the mode of learning. It is essential to note that the State University mentioned in the study follows a blended learning model. In today's world, as digital media and information become increasingly prevalent, the role of information and communication technology (ICT) in education is gaining significance. Higher learning institutions have been integrating e-learning into their traditional classroom- based education. E-learning or web-based learning allows for the sharing of materials in various formats such as word documents, videos, slideshows, and PDFs, (Wahab et al., 2016). Additionally, live webinars, online classes, and communication through chat and message forums are available to both students and lecturers.

The Internet plays a crucial role in this context as it serves as a source of information and a medium of communication, empowering students in their learning journey. However, students may encounter challenges related to slow internet speed, long loading times for web pages, and frequent signal loss. Moreover, issues like slow computer speed, internet signal problems, virus threats, poor computer working conditions, power outages, and lack of internet access are prevalent among many students. These factors can hinder the effective utilization of e-learning resources and technologies, affecting the overall learning experience. Furthermore, integrating ICT into education poses several challenges and obstacles, particularly in developing countries. The establishment of institution-wide ICT systems in such contexts often incurs high opportunity costs compared to developed countries (Siddiquah et al., 2017). Despite the potential benefits, addressing these challenges is crucial for maximizing the advantages of ICT in education and providing equitable learning opportunities for all students. According to Akomolafe & Adesua (2016), utilizing the internet can enhance students' motivation and academic performance.

The factors previously discussed could contribute to the improvement of learning facilities and student support services, ultimately increasing the probability of higher GPAs among students. While there is a correlation between learning facilities and GPA,

it's important to note that learning facilities alone do not directly cause the GPA. Instead, improved academic performance is the result of a combination of multiple factors working together. Therefore, focusing solely on learning facilities in isolation may not be sufficient for addressing broader educational outcomes; a holistic approach involving various factors is necessary to enhance academic achievements.

Parental Guidance has the potential to positively impact a student's Grade Point Average (GPA). However, considering Parental Guidance alone as a significant predictor of a student's GPA may not be accurate, as other factors such as parents' income could also play a role. Students with higher parental income may have a greater likelihood of achieving higher GPAs. While there is a correlation between Parental Guidance and GPA, it's essential to acknowledge that Parental Guidance alone does not directly cause the GPA. Instead, academic performance is influenced by a combination of various factors working together. Parental Guidance, though valuable, may not be the sole key to achieving broader educational outcomes; it requires a comprehensive approach involving multiple factors to enhance academic achievement. According to Osei-Owusu et al. (2018), factors such as parents' educational level, parents' occupational level, parents' income level, and parental care have an impact on students' academic performance.

As per the study conducted by Chukwudi et al. (2017), there is a significant influence of parental occupational level on students' academic performance. Additionally, the study highlights a strong positive relationship between parental educational levels and students' academic performance. These findings are supported by the research conducted by Nguyen et al. (2021), which indicates that while the age gap between parents and their children has only minor positive effects on academic performance, family income shows a significant and positive correlation with GPA. This suggests that students from wealthier families tend to perform better academically compared to those from less affluent backgrounds. Interestingly, the study by Adzido et al. (2016) also sheds light on the positive relationship between students' academic performance and their family income. The availability of financial resources can provide students with the comforts they need to focus on their studies. However, the research also reveals that students from more prosperous families might not necessarily devote proper attention to their studies. It implies that wealth alone cannot guarantee a student's dedication to their academic pursuits. These

studies collectively highlight the impact of parental occupational level, parental educational levels, and family income on students' academic performance. While financial resources can provide certain advantages, academic success is influenced by a combination of factors beyond monetary affluence.

The community is another factor that could potentially contribute to a high-Grade Point Average (GPA) for students. However, considering the community alone as a significant predictor of a student's GPA may not be accurate. While there is a correlation between the community and GPA, the community itself does not directly cause the GPA. Academic performance is influenced by a combination of multiple factors working together. Therefore, the community is not necessarily the sole key to achieving broader educational outcomes; it requires the interplay of various factors to enhance academic achievement.

The ecological perspective suggests that students are significantly influenced by the social contexts surrounding them. This perspective provides an approach to understand the relationship between social support and students' learning outcomes. Social support within the community offers university students a sense of security and competence, which, in turn, helps them address intellectual challenges more effectively. This social support can positively impact their overall academic performance. The community plays a role in shaping students' academic outcomes, but it is just one part of a complex network of factors that contribute to improved academic performance. Social support from the community can be beneficial for students in their educational journey, but the overall GPA is influenced by a combination of various elements.

The connections students have with their friends and faculty members play a significant role in their academic success (Mishra, 2020). According to Wen & Li (2022), social support fosters the development of dispositional optimism among students from low-income families, leading to an improvement in their academic performance. Li et al. (2018) also found that self-esteem fully mediates the relationship between social support and academic achievement, as well as the connection between social support and emotional exhaustion. The General Benefits (GB) model of social support proposed by Rueger, Malecki, Pyun, Aycock, and Coyle (2016) suggests that social support can enhance positive psychological states in individuals, such as positive affect and a sense of well-being. Additionally, Rueger et al. (2016) proposed the Stress- Buffering (SB) model of social support, which posits that social support acts as a buffer against stress. Social support can provide solutions to individuals facing stressful situations, reduce the perceived significance of problems, and facilitate positive psychological reactions and behavioral responses. In other words, social support is seen as a protective resource that enables students to cope with stress, distress, and depression. If social support is lacking, individuals may experience more negative effects of stress (Rueger et al., 2016). Social support provides individuals with positive social interactions, contributing to emotional balance and a reduction in burnout.

Consequently, students with supportive resources are less susceptible to emotional exhaustion compared to those without such resources. Social support serves as an effective remedy to enhance students' stress resilience, which can be particularly valuable in dealing with emotional exhaustion.

CONCLUSION

The results of this study indicate that when considered independently, community, parental guidance, and learning facilities do not directly and significantly impact the academic performance of students in State Universities (SUCs). However, it is essential to recognize that these factors may still have an indirect influence on GPA through mediating variables. The study proposes that other factors, such as the school budget, mode of learning, internet access, parental income,

parental education, parental occupation, and social support, might act as mediating factors in the relationship between community, parental guidance, learning facilities, and GPA. These mediating factors could potentially explain the correlation observed between the three factors and GPA. Therefore, the study suggests that a combination of multiple factors, rather than solely relying on community, learning facilities, and parental guidance, may be necessary to effectively enhance academic performance. The study highlights the significance of considering the broader context and the interplay of various factors that can contribute to students' educational outcomes. While community, learning facilities, and parental guidance may exhibit correlations with GPA, they are not the exclusive predictors of academic performance. To address the broader educational outcomes and improve students' GPAs, it is crucial to take into account a wide range of factors that influence academic success, including the mediating variables.

Study has several implications for educational institutions, policymakers, and parents. A comprehensive approach is needed to improve academic performance. Relying solely on community support, learning facilities, or parental guidance may not be sufficient. Instead, a combination of multiple factors, including those identified as potential mediators, should be considered. This implies that educational interventions and policies should take a holistic approach to address students' educational outcomes. The study also highlights the potential mediating role of factors such as school budget, mode of learning, and internet access. Policymakers should consider allocating adequate resources to schools, ensuring equitable access to technology, and providing suitable learning environments. Investing in these areas may indirectly enhance students' academic performance by addressing the mediating factors. While parental guidance alone may not directly impact academic performance, the study suggests that it can have an indirect influence. Parental income, education, and occupation are identified as potential mediating factors.

This implies that efforts should be made to increase parental involvement in education, provide support to parents, and address socioeconomic disparities that may affect students' educational outcomes. The study identifies social support as a potential mediating factor between community factors and GPA. This highlights the significance of fostering a supportive social environment for students. Schools, communities, and families should work together to provide students with a network of support, which can positively impact their academic performance. The study underscores the need for a comprehensive and nuanced approach to enhance academic performance. It emphasizes the importance of considering multiple factors and their potential mediating roles. By addressing the broader context and interplay of various factors, educational institutions and policymakers can develop more effective interventions and policies to support students' educational success.

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Knowledge and Influence of Using Artificial Intelligence Writing Tools on Grammar

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ABSTRACT

This study investigates the knowledge and influence of AI writing tools on the grammar skills of second-year Bachelor of Secondary Education English majors at the University of the Visayas Toledo City campus. A survey of 50 students assessed demographics, familiarity with AI writing tools, and their impact on grammar, using descriptive statistics and regression analysis. Findings show 52% of students were from low-income homes, with 68.06% using mobile phones and 51.35% accessing the internet via mobile data. The students' mean knowledge score of 3.4 indicated neutral familiarity with AI tools, and mean ratings from 3.34 to 3.76 suggested general agreement on the positive impact of AI tools on grammar. However, students expressed concerns about overreliance on these tools. Regression analysis revealed a weak but statistically significant positive relationship between AI tool knowledge and grammar improvement (Multiple R = 0.2788, R^2 = 0.0777, p-value = 0.0499). This study findings will benefit curriculum planners in designing AI-focused programs, teachers in identifying support areas, and students in enhancing grammar skills through AI tools. It will also serve as a reference for future researchers studying AI in education. Further research is needed to explore AI tools' long-term effects and develop best practices for their educational integration.

Keywords: AI integration, influence, grammar, knowledge, writing skills, writing tools

INTRODUCTION

Every educational institution is focused on enabling student achievement because education has a transforming effect on how people and society are shaped. State universities and colleges serve as effective catalysts, fostering the knowledge and skills required to produce a workforce that is competent and productive. Even amid the significant investments made in higher education, however, the complex network of student performance needs thorough examination and comprehensive evaluation. State colleges and universities have a big impact on students' academic and career goals. Policymakers, educators, and administrators need to have a deep grasp of the factors that influence student accomplishment in order to develop interventions and methods that work. The study aims to investigate and reveal the underlying ideas by utilizing multivariate regression analysis to identify the factors influencing student achievement in state universities and colleges.

Recent studies have yielded important new information about the variables affecting college student achievement. For instance, grit, resilience, and mentality are examples of non- cognitive variables that are important in predicting academic achievement and perseverance (Robbins et al., 2018). These results emphasize the importance of taking psychological characteristics of pupils into account in addition to standard academic variables. Moreover, socioeconomic characteristics have been found to be important indicators of student achievement. Students from lower-income families encounter additional difficulties because of financial limitations, restricted access to resources, and small support systems, according to a study by Hurwitz and Lee (2020). Ensuring equitable possibilities for success in higher education requires addressing these challenges. The function of institutional support services has drawn more notice lately.

Breland et al.'s study from 2021 shown the beneficial effects of academic support services on student retention and graduation rates, including mentorship, tutoring, and extra teaching. Effective advising techniques have also been demonstrated to improve degree completion and student performance (Sawyer et al., 2022). In order to improve student engagement, retention, and graduation rates, high-impact practices—such as undergraduate research, internships, and service-learning opportunities—are essential, according to a study by Kuh et al. (2020). This emphasizes how important it is to give students a variety of chances for hands-on learning and skill development.

Furthermore, emphasis has been placed on the significance of inclusive and interesting teaching methods. Student achievement and engagement are positively impacted by student- centered teaching methods, active learning techniques, and supportive classroom environments, according to a recent meta- analysis by Feldman et al. (2021). Also, it is impossible to disregard how technological improvements affect students' progress. Chen and Lambert's (2021) study emphasized how online learning environments and educational technologies support student engagement, personalized learning, and resource access. Studying the effects of hybrid or entirely online instructional methods on student achievement in the digital era is vital, since more and more institutions embrace these models.

Achieving student success in state universities and colleges is the most important objective, but it's also critical to understand the complex relationships between the different components that contribute to that achievement. Previous research has identified a variety of factors that affect student accomplishment; however, there has not been a comprehensive analysis of the combined effects and relationships between all these variables. Additionally, considering the evolving nature

CONCEPTUAL FRAMEWORK

INPUT	PROCESS	OUTPUT
Students profile in terms of: Socio-economic background Types of digital Technology Access to technology Length of years using technology	Quantitative research design Data gathering survey questionnaire Descriptive statistics and Regression Analysis.	The level of knowledge of students in the use of artificial intelligence writing tools on grammar. The significant relationship between the students' level of knowledge and the influence of the use of artificial intelligence writing tools on grammar. Proposed Recommendation

STATEMENT OF THE PROBLEM

The primary objective of this research is to determine the level of knowledge and influence of artificial intelligence (AI) writing tools on grammar among Second-year Bachelor of Secondary Education English Majors Students at the University of Visayas Toledo City Campus.

Specifically, this study sought to answer the following questions:

1. What is the demographic profile of students in terms of

    1.1. Socio-economic status;
    1.2. Types of digital technology;
    1.3. Access to technology;
    1.4. Length of years in using gadgets?

2. What is the level of knowledge of students in the use of artificial intelligence writing tools?

3. What is the influence of artificial intelligence writing tools on grammar?

4. Is there a significant relationship between students' level of knowledge in the use of artificial intelligence writing tools and the influence of the use of artificial intelligence writing tools on grammar?

5.What recommendations can be proposed based on the findings of this study?

STATEMENT OF THE NULL HYPOTHESIS

Null Hypothesis (H0): There is no significant relationship between the level of knowledge about AI writing tools and their influence on grammar. In other words, the coefficient for 'Level of Knowledge' in predicting 'Influence' is zero.

Alternative Hypothesis (H1): There is a significant relationship between the level of knowledge about AI writing tools and their influence on grammar. This means that the coefficient for 'Level of Knowledge' in predicting 'Influence' is not zero.

RESEARCH METHODOLOGY

Research Design

In this study, a Quantitative descriptive research design was employed. This design is particularly suitable as it allows for a detailed and accurate description of the level of knowledge and influence of artificial intelligence writing tools on grammar, based on numerical data and statistical analysis.

Research Environment

The collecting of data was conducted at University of the Visayas- Toledo Campus located in Sergio Osmeña Sr. Street, Poblacion, Toledo City, Cebu Philippines. It is located about 500 meters from the Toledo City Port and about 50 kilometers (30 mi) away from Cebu City. The university is one of the satellite campuses of a non-sectarian, private institution, the University of the Visayas Cebu. It was formally open in 1947 for the solicitous purpose of helping young men and women who could not afford to go to Cebu City to acquire education. Through all the years since its incipience, the University of the Visayas Toledo City Campus continued to fulfill its mission. The College of Education offers undergraduate programs such as Bachelor of Elementary Education and Bachelor of Secondary Education major in English, Filipino, and Social Studies. The university has become home to many professionals and has a history of high rating Board passers.

Respondents

There was a total of 50 respondents. The respondents of this research were strictly confined to second-year students, currently pursuing a Bachelor of Secondary Education major in English at the University of the Visayas-Toledo City Campus, who are enrolled for the academic year 2023-2024.

Sampling Technique

In this study, purposive sampling was used to select the sample. The researcher has chosen the Second-year Bachelor of Secondary Education major in English. The choice of this class as the sample was also influenced by the purposive sampling criteria, which indicated that these students had an average capacity compared to other classes.

Instrument

To gather the data, the researchers utilized a survey questionnaire- checklist. The questionnaire consisted of twenty- eight (28) items. The first section focuses on demographic profiling, gathering information about the respondents. The second section contains eight

(8) questions that focus on determining the familiarity or students' level of knowledge in using AI writing tools. The remaining twenty

(20) questions explore the influences of AI writing tools on grammar. This approach ensures a thorough evaluation of the respondents' understanding and application of artificial intelligence writing tools. Additionally, before full-scale data collection, a reliability test (pilot testing) will be conducted. This test involves administering the questionnaire to 10 third-year students taking up Bachelor of Secondary Education major in English and 10 BSED major in Filipino. Their feedback will help ensure the questionnaire's consistency and reliability.

Data Gathering Procedure

The researchers adhered to a specific procedure to achieve the objectives of the study. Initially, the researcher sent a permission letter to the Dean of the College of Education, seeking approval to conduct the study with the target participants. Upon receiving approval, the study administered according to its timeline. To ensure adherence to safety rules, the researchers obtained the informed consent of the respondents through face- to-face interaction. This step provided the respondents with the opportunity to decide whether they wish to participate in the study. At this stage, the survey instrument also was distributed to the respondents. This instrument served as the primary source of

data for the study and will facilitate the collection of information. The respondents are expected to answer the questions in the survey, which aimed to evaluate students' level of knowledge on AI writing tools and their influence on grammar. After the data collection, the gathered information will be statistically analyzed to ensure the reliability and validity of the results.

Data Analysis

In this study, descriptive statistics were utilized to analyze the data that will be gathered from the respondents. The researchers calculated basic descriptive statistics such as mean, and mode to determine students' level of knowledge of AI writing tools and its influence on grammar. A regression analysis was used to measure the significant difference of respondents' level of knowledge and influence of using artificial intelligence writing tools.

Ethical Consideration

It is important to adhere to ethical principles to protect the dignity, rights, and welfare of research participants. As such research involving students' behavior should be reviewed by an ethics committee to ensure that the appropriate standards are being upheld. Beneficence. Researchers have a duty to minimize harm and maximize benefits in their studies. Human research should aim to benefit participants directly or, more commonly, to benefit others. Respect for Human. Dignity This principle, from the Belmont Report, emphasizes the right to self-determination and full disclosure.

Informed Consent:

Study Goals: Clearly state the research goals in understandable terms and explain how the data will be used. Type of Data: Inform participants about the nature of the data being collected (quantitative or qualitative). o Participant Selection: Explain how participants were selected and the total number of participants.

Confidentiality Pledge: Assure participants that their privacy will be protected. If anonymity is possible, it should be stated.

Confidentiality Procedures: Protect participants' data through various measures:

- Only collect identifying information when essential.
- Use ID numbers instead of personal identifiers.
- Keep identifying information in a secure, booked file.
- Restrict access to identifying information to a need-to-know basis.
- Avoid entering identifying information into computer files.

Voluntary Consent: Participation should be strictly voluntary without any penalties or loss of benefits for non- participation.

- Debriefing, Communications, and Referrals:
- Show respect and minimize emotional risks through gracious and polite interactions, being tactful and culturally sensitive.
- Offer debriefing sessions after data collection to address participants' questions or concerns, especially if the study involved stress or deception. Communicate with participants post-study to express appreciation for their involvement. Results and Discussion This part showed the results and findings of data gathered from the target respondents.

RESULTS AND DISCUSSIONS

This part showed the results and findings of data gathered from the target respondents.

Part I. Demographic Profile of the Students

1.1. Socio-economic status

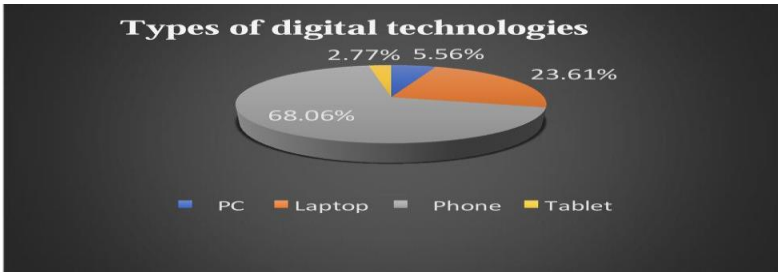

Figure 1: Socio-economic Status of Respondents

The pie chart represents the socio-economic status of respondents based on family income. The majority, 84%, earn monthly income below ₱10,957- 21,914, indicating a low income. The next largest group, 16%, earn between ₱21,914- 76,669, suggesting a middle- income status. None of the respondents earn between ₱76,669-219,140 and 219,141-above, representing high income and rich families respectively. These income distributions suggest that most of the population may face financial constraints, impacting their access to resources and opportunities, and indicating a need for targeted economic and social support initiatives.

According to the Philippine Institute for Development Studies (PIDS), there are 3 main types or stratification of social hierarchy in the Philippines based on income: Low-income class, Middle income class, High-income class. Somewhere in these three main classes are some more types, which is a cross between the upper and lower brackets. So, we can generally say that the social classes in the Philippines are: Rich (219,140 and above), High income (131,484 -219,140), Upper middle income (76,669 -131 484), Middle class (43,828- 76,669), Lower middle class (21,194-

43,828), Low income (between 9520 - 21,194), Poor (below 10,957 monthly income).

1.2 Types of Digital Technologies that Students Utilized

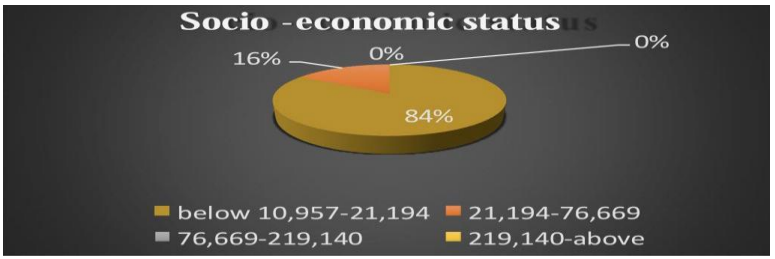

Figure 2: Types of Digital Technologies Utilized by Respondents

The figure shows that 68.06% of students primarily use their phones for studying, followed by 23.61% using laptops. 5.56% use PCs, and a mere 2.77% use tablets for their studies. The data implies that the majority of students (68.06%) rely on phones for studying, indicating a preference or necessity for mobile learning. This suggests the need for mobile friendly educational resources and platforms. The significant use of laptops (23.61%) highlights their continued importance in student learning. The relatively low usage of PCs (5.56%) and tablets (2.77%) suggests that these devices are less favored or accessible. These trends can guide educators and policymakers in designing and implementing digital learning strategies and resources that are compatible with the devices most commonly used by students.

1.3. Access to the Internet of the Respondents

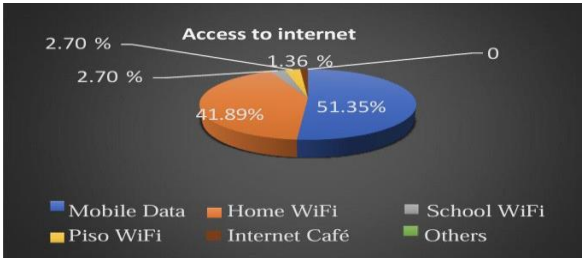

Figure 3: Access to Internet by Respondents

This chart shows that 51.35% of students use mobile data and 41.89% use home WiFi for internet access for their studies. A small percentage use school WiFi and piso (peso) WiFi (2.70% each), and 1.36% use internet cafes. No students reported using other means of accessing the internet. This suggests that mobile data and home WiFi are the primary methods of internet access for students in their studies. According to data from the Philippine Statistics Authority (PSA), 42.1% of households utilize a mobile broadband network to access the internet. This is a USB modem, integrated Subscriber Identity Module (SIM) card, or phone access to the internet.

1.4. Number of Years that the respondents Using Technologies

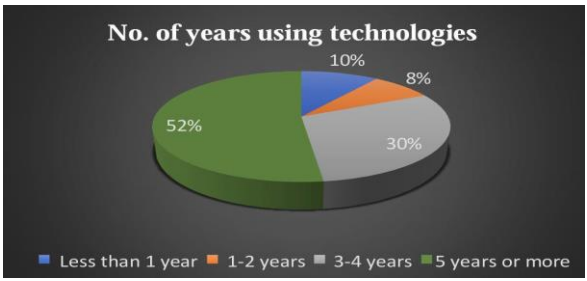

Figure 4: Number of Years Using Technologies

The data shows that 10% of students have been using their devices for less than 1 year, 8% for 12 years, 30% for 3-4 years, and the majority, 52%, for 5 years or more. The significant proportion (52%) of individuals using technologies for 5 years or more suggests a growing familiarity and reliance on technological tools, possibly influenced by initiatives like the University of the Philippines Open University's integration of online teaching and learning program to support distance education in the country in the late 1990s to 2000s.

Part II. Level of Knowledge and Influence of Using AI Writing Tools on Grammar

AI writing tools have gained popularity in academic and professional settings, offering real-time grammar suggestions and stylistic improvements. While these tools help users enhance their writing, their impact on grammatical knowledge remains debated. This section shows the knowledge of respondents towards AI tools in grammar and how these tools influence accuracy and competency.

Table 1: Level of Knowledge of Respondents on the Use of AI writing Tools on Grammar

Items	Mean	Mode	Interpretation
Q1.	3.4	3	Moderately Knowledgeable
Q2.	3.37	4	Neutral
Q3.	3.08	3	Neutral
Q4.	3.24	4	Neutral
Q5.	3.12	3	Neutral
Q6.	3.39	3	Neutral
Q7.	3.35	3	Neutral
Q8.	3.29	3	Neutral

Number of Respondents	Mean	SD	Description
50	3.27	0.81	Neutral

Legend:
1.0 - 1.7 Not Knowledgeable
1.8 - 2.5 Slightly Knowledgeable
2.6 - 3.3 Neutral
3.4 - 4.1 Moderately Knowledgeable
4.2 - 4.9 Extremely knowledgeable

Table 1 displays the students' level of knowledge on AI writing tools. The responses were measured on a Likert scale: 1 represents 'Not knowledgeable', 2 represents 'Slightly knowledgeable', 3 represents 'Neutral', 4 represents 'Moderately knowledgeable', and 5 represents 'Extremely knowledgeable' (PsycINFO Database Record (c) 2016). The mean scores for the questions were as follows: Question 1 (Mean: 3.4), Question 3 (Mean: 3.08), Question 5 (Mean: 3.12), Question 6 (Mean: 3.39), Question 7 (Mean: 3.35), and Question 8 (Mean: 3.29). These scores suggest that students generally perceive themselves as neutral in their level of knowledge about AI writing tools. For Questions 2 (Mean: 3.37) and 4 (Mean: 3.24), while the average scores suggest a neutral level of knowledge, the most common responses were 'Moderately knowledgeable'. This indicates that a significant number of students feel moderately knowledgeable about AI writing tools, despite the overall average being neutral.

The survey data suggests that students generally perceive themselves to have a neutral level of knowledge in using AI writing tools. However, there is some variation in responses, indicating a range of knowledge levels among the students. Although AI writing tools are more widely available, not everyone is aware of how to use them to their full potential. Consider a situation in which people are aware that artificial intelligence exists but are not proficient in its application. Though they have trouble putting AI into practice, they acknowledge it as a concept or technology.

This viewpoint emphasizes the necessity of education and skill enhancement in order to fully realize the promise of AI. The issues brought up by Kornfeld and Roy's study highlight how difficult it is to strike a balance between using AI techniques and preserving uniqueness in academic writing. Some concerns have been raised about the potential for these tools to contribute to plagiarism, as students may rely too heavily on automated suggestions and fail to develop their own writing skills (Kornfeld & Roy, 2021).

Table 2: Influence of AI Writing Tools on Grammar

Items	Mean	Mode	Interpretation
Q1.	3.5	4	Substantial Influence
Q2.	3.56	4	Substantial Influence
Q3.	3.36	3	Moderate Influence
Q4.	3.76	4	Substantial Influence
Q5.	3.34	3	Moderate Influence
Q6.	3.34	3	Moderate Influence
Q7.	3.32	3	Moderate Influence
Q8.	3.16	3	Moderate Influence
Q9.	3.52	3	Substantial Influence
Q10.	3.46	4	Substantial Influence
Q11.	2.6	3	Moderate Influence
Q12.	2.48	2	Limited Influence
Q13.	2.36	2	Limited Influence
Q14.	2.36	2	Limited Influence
Q15.	2.48	2	Limited Influence
Q16.	3.24	3	Moderate Influence
Q17.	2.88	3	Moderate Influence
Q18.	3.1	3	Moderate Influence
Q19.	2.96	3	Moderate Influence
Q20.	2.86	3	Moderate Influence

Number of Respondents	Mean	SD	Description
50	3.08	0.42	Moderate Influence

Legend:

1.0 - 1.7 Negligible Influence
1.8 - 2.5 Limited Influence
2.6 - 3.3 Moderate Influence
3.4 - 4.1 Substantial Influence
4.2 - 4.9 Significant Influence

Table 2 presents the influence of AI writing tools on students' grammar. The responses were measured on a Likert scale where 1 represents 'Negligible Influence', 2 represents 'Limited Influence', 3 represents 'Moderate Influence', 4 represents 'Substantial Influence', and 5 represents 'Significant Influence'.

The findings from the survey on students' perceptions of AI writing tools reveal a predominantly positive attitude towards their influence on grammar and writing skills. Across questions focusing on positive aspects (Q1-10), students commonly expressed agreement, particularly highlighting benefits

such as improved grammar (Q4), enhanced writing clarity (Q2), and overall positive influence (Q10). However, responses also showed a tendency towards moderate influence on certain aspects (Q3, Q5-Q9), indicating some uncertainty despite a leaning towards agreement. Conversely, concerns about potential drawbacks (Q11-20) received predominantly moderate influence responses, with students generally disagreeing with suggested drawbacks such as reduced creativity (Q12, Q13) or over-reliance (Q14, Q15). This suggests that while students recognize the benefits of AI tools, they are cautious about potential negative implications. These findings may lead to the nuanced perspectives students hold regarding the integration of AI in educational settings, emphasizing the need for balanced considerations in leveraging these technologies to enhance learning outcomes effectively.

Given the positive reception, educational institutions should consider integrating AI writing tools into the curriculum. This can help students develop stronger writing skills, enhance clarity, and improve grammar, thereby better preparing them for future academic and professional endeavors (Liu, Wu, & Xu, 2019). However, educators should emphasize the balanced use of AI tools, ensuring that students use them to complement their learning rather than as a crutch that might hinder the development of independent writing skills (Zhang & Zou, 2018). To address uncertainties and maximize the benefits of AI writing tools, schools should provide training sessions for both students and teachers, including workshops on how to effectively use these tools and integrate them into writing practices (Aoun, 2017).

Continuous monitoring and feedback mechanisms should be established to assess the impact of AI tools on students' writing abilities. This can help in identifying areas where students might become overly reliant on these tools and in providing corrective measures. Further research is needed to explore long-term effects and best practices for integrating AI writing tools into educational settings, contributing to the development of guidelines and policies that ensure these tools are used effectively and ethically (Tambunan, 2022). Overall, while AI writing tools present an innovative way of learning, their influence on student's grammar and writing skills necessitates a balanced approach that leverages their strengths while addressing potential limitations.

Table 3: Analysis of data on significant relationship between students' level of knowledge on AI writing tools and its influence on grammar.

Regression Statistics	
Multiple R	0.279
R Square	0.078
Adjusted R Square	0.059
Standard Error	0.786
Observations	50

ANOVA

	df	SS	MS	F	Significance F
Regression	1	2.497	2.497	4.045	0.050
Residual	48	29.628	0.617		
Total	49	32.125			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.625	0.824	1.971	0.054	-0.033	3.282	-0.033	3.282
Level of knowledge in the use of artificial intelligence writing tools	0.533	0.265	2.011	0.050	0.000	w1.066	0.000	1.066

A regression analysis was conducted to examine the relationship between students' level of knowledge in the use of artificial intelligence writing tools and the influence of the use of artificial intelligence writing tools on grammar. The coefficients table provides estimates for the intercept and the predictor variable. The intercept of 1.625 represents the expected level of knowledge when the predictor variable is zero. The coefficient for the predictor variable is 0.533, suggesting that, on average, a unit increase in the predictor variable leads to a 0.533 increase in the level of knowledge. The t-statistic of 2.011 and the associated p-value of 0.050 indicate that the coefficient for the predictor variable is statistically significant.

ANOVA results indicate that there is evidence of a significant relationship between the predictor variable and the level of knowledge. The F-statistic of 4.045 suggests overall significance, and the associated p-value of 0.050 indicates a marginally significant relationship. This suggests that as individuals use AI writing tools more frequently, their grammar knowledge tends to improve. These findings imply that students' level of knowledge in the use of artificial intelligence writing tools contributes to students' grammar proficiency. The implications of these results are significant for educational practice and policy. Integrating AI writing tools into the curriculum can substantially enhance students' grammatical skills and overall writing proficiency. This finding aligns with previous studies that highlight the effectiveness of AI tools in educational settings. For instance, Liu, Wu, and Xu (2019) found that AI-based educational tools significantly improve learning outcomes and student engagement. Similarly, Zhang and Zou (2018) emphasized that AI tools provide personalized learning experiences that cater to individual student needs, thereby improving academic performance.

The positive correlation demonstrated by the regression analysis suggests that as students become more adept at using AI writing tools, their grammatical skills are likely to improve. This supports the notion that technological proficiency is increasingly essential for academic success in the digital age (Aoun, 2017). However, it also highlights the need for comprehensive training programs to ensure students can effectively leverage these tools. Educational institutions should invest in professional development for educators to facilitate the integration of AI tools in teaching practices, ensuring that both students and teachers can maximize the benefits of these technologies (Tambunan, 2022).

The significant relationship between AI writing tools and students' grammatical knowledge emphasizes the importance of integrating technology into education. As AI continues to evolve, its role in shaping educational outcomes will likely become even more critical. Therefore, ongoing research and adaptive teaching strategies will be necessary to harness the full potential of AI in education, ensuring students are well-prepared for the demands of the modern workforce. Integrating AI writing tools into classroom activities can serve as an effective method for enhancing students' grammar skills. The positive correlation observed suggests that as students engage more with AI tools, their understanding and application of grammar rules improve. This finding is supported by recent studies. For instance, Holmes et al. (2019) found that AI tools provide immediate feedback, allowing students to correct errors in real- time, which reinforces learning and retention of grammatical rules. Similarly, Cheung and Slavin (2016) demonstrated that technology-assisted instruction, including AI applications, can significantly improve language skills and academic performance.
The marginally significant relationship highlighted by the ANOVA results underscores the potential of AI tools to enhance learning outcomes, even if current usage levels show room for improvement. Educational institutions should consider these findings when designing curricula and training programs. By fostering an environment that encourages the use of AI tools, schools can help students develop critical language skills essential for academic success and future career opportunities (Schmid, 2020). This evidence supports the need for professional development for educators to effectively integrate AI writing tools into their teaching practices. Teachers equipped with the knowledge and skills to utilize these tools can better support students

in leveraging AI for learning enhancement (Ouyang & Jiao, 2021).

In conclusion, the significant relationship between AI writing tool usage and grammar proficiency highlights the transformative potential of technology in education. By embracing AI applications, educators can provide students with the tools necessary to improve their language skills, ultimately preparing them for the demands of a technology-driven world.

SUMMARY OF FINDINGS

Most students from low-income families use phones for studying and have relied on them for over five years, mainly accessing the internet via mobile data and WiFi. They perceive their knowledge of AI writing tools as neutral, with varied responses. While they see AI tools as beneficial for grammar, concerns about drawbacks and over-reliance persist.

CONCLUSION

The study concludes that while students generally perceive themselves as having a neutral level of knowledge about AI writing tools, there is a statistically significant, albeit weak, positive relationship between the level of knowledge about AI writing tools and their influence on grammar. This suggests that increasing students' knowledge about AI writing tools could potentially enhance their grammar skills. However, it's important to note that the level of knowledge about AI writing tools only explains a small portion of the variation in their influence on grammar, indicating that other factors may also play a significant role. As students become more proficient with AI tools, their understanding and application of grammar rules improve, supporting their academic success. This gives emphasis on the need for comprehensive training programs for both students and educators to fully leverage AI's potential in education, preparing students for the demands of a technology driven world.

RECOMMENDATIONS

Based on the findings of this study, it is recommended that educational institutions incorporate training and awareness programs about AI writing tools into the curriculum to enhance students' proficiency with these tools. Teachers should provide guidance and support to students, including demonstrations on how to use the tools, offering feedback, and addressing any concerns or questions. Students are encouraged to explore various AI writing tools and understand the reasoning behind corrections to promote a deeper understanding of grammar rules. Further research should be conducted to explore other factors influencing the effectiveness of AI writing tools, such as the quality of the tools, frequency of use, and the type of feedback provided.

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Scientific Literacy, Teachers' Self-Efficacy and Teaching Proficiency Of 21st Century Science Teachers

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ABSTRACT

This investigation determines the level of scientific literacy, teachers' self-efficacy and teaching proficiency of the science teacher in the Division of Sagay City according to their age, sex, civil status, the length of service, undergraduate preparation and the number of hours attended. The descriptive - correlational research design specifically the quantitative descriptive survey method was employed in this study with forty - two randomly selected high school science teachers, the respondents were given three sets of instruments, the Teachers' Self-efficacy Scale questionnaire, Evaluation for Teaching performance and the Scientific Literacy Skill Test questionnaire. Mean, t-test for independent means and analysis of variance were the statistical tools used. Findings revealed that the level of scientific literacy of the science teachers when taken as a whole and when grouped according to the selected variables was basic except on non-education graduates which is observably high but shows no significant difference. Moreover, science teacher's teaching self-efficacy, results disclosed that there is no significant difference in the level of teaching self-efficacy of science teachers when grouped according to selected variables such as age, civil status, length of service and training. However, when dimension was considered individually, there is a significant difference in the level of science teachers teaching proficiency in terms of planning but not when they are grouped according to civil status. This means scientific teachers when taken as a whole and when grouped according to the selected variables were proficient enough in teaching the subjects and have mastery of the subject matter. Meanwhile, it was noted that there is no significant correlation among science teachers' scientific literacy, self-efficacy, and teaching proficiency.

Keywords: *21st Century science teachers, scientific literacy, teacher's self-efficacy, teaching pro-ficiencycacy, teaching proficiency*

INTRODUCTION

Twenty-first century learning is associated with the quality of learning environment and the quality of teaching as well. Many reforms on the development of the education system that lies on the hand of the preexisting scenario of what teaching and learning process really takes place in the field. This is, in response to the inevitable battle of the Department of Education to commence and fulfill the ultimate goal which is to achieve quality education specifically in science education (Asian Development Bank, 2011). Likewise, a global vision of Project 2000+ by UNESCO in the 1993, that urged agencies, NGOs, IGOs and governments to strengthen the capability of countries for designing, planning and implementing program to enhance scientific and technological literacy for all.

Department of Education emphasizes the importance of Science education which aims to develop scientific literacy among the primary and secondary school students (Berito, 2015). As stated in the 1987 Philippine Constitution under Article XIV, Section 3, paragraph 2 that the state shall…encourage critical and creative thinking, broaden scientific and technological knowledge. Under section 10, likewise mentioned the State shall give priority to research and development, invention, innovation, and their utilization; and to science and technology education, training, and services. It shall support indigenous, appropriate, and self-reliant scientific and technological capabilities, and their application to the country's productive systems and national life.

The application of knowledge to science and technology-related life situations contributes to students' competencies. Thus, developing concepts and principles of science alone is similar to teaching history of science and is not an optimal step to envision what the state requires.

In the broader sense, education system must develop scientific and technological "literacy" to all. To Sulaiman (2013) the word literacy comes from the Latin word "Litteratus" formed from the word "littera" which means "letter". It connotes "Man of Letters" or a "Learned man". Furthermore, through evolution the meaning of literacy has changed into "ability to read, write and compute" which is the same as "basic literacy". Sulaiman (2013) concluded that scientific literacy is a higher level of basic literacy. United Nation Education, Scientific, and Cultural Organization (UNESCO, 2000) stated that scientific literacy includes ability to apply scientific and technological concepts and process skills to the life, work and culture of one's own society. Scientific Literacy likewise stresses the development of habits of mind to facilitate individual and group problem solving (American Association for the Advancement of Science AAAS, 1990). Concept of scientific literacy refers both to a knowledge of science and science-based technology. New scientific knowledge enables new technologies. Hence, technology seeks the optimal solution to a human problem and there may be more than one optimal solution. In contrary, science seeks the answer to a specific question about the natural material world.

If science education were to help students construct knowledge on scientific phenomena and reason, think critically and logically, and solve problems, science educators must by all means provide opportunities and experiences to their students (Damasco, 2013). This implies that acquiring education or being educated is far different from being scientific literate. Being "educated" means people who possess the knowledge, while, being scientifically "literate" means those who can read about, comprehend, and express opinions on scientific matters. Finally, this also implies that effective science instruction and innovative teaching strategies provides more students the opportunity to discuss logically and debate scientific ideas.

On the contrary, Bandura (2006) opines that knowledge alone does not ensure effective practice, individuals must also be guided by the belief in their ability to use their knowledge in a given context. This is a challenge that every professional science teacher must embrace and persistently work. Views in one's ability to perform a task correctly play a significant role in learning (Loo & Choy 2013; Williams & Takaku 2011). Bandura (2006:3) defines self-efficacy as the 'beliefs in one's capacities to initiate

and execute the courses of action required in producing given outcomes. Concomitant to this end, teacher self-efficacy has significant implications for school effectiveness as a whole. Teachers' self-efficacy may serve as the key mediating factor between a school's climate and professional culture and its educational effectiveness (Bobbett, 2001; Tshannan-Moran, Hoy, & Hoy, 2001).

In education, it is deemed essential to recognize and understand how proficiency works, Professor Hans-Jürgen Krumm (2013) describes that the competence of instruction is a combination of teachers' expertise and didactic knowledge skills, practical teaching experience gained over time, insights, and attitudes, above all on interaction with students and the teacher's role. Hattie (2009) also describes this teaching proficiency as the teacher's openness to experience, willingness to learn from errors, readiness to seek and learn from constructive feedback done both from students and who foster effort, clarity and engagement in learning. Effective science educators, self- perceived efficacy and teaching strategies and clear, relevant examples of science and technology (at primary, secondary, tertiary or adult education) are critical parts of being critically literate and becoming involved in global issues beyond the personal. These are the principal components to address wisely the declining result of science and mathematics performance. Despite the attention and immediate actions to expand and refine the education sector, problems on scientifically literate students not only in the Philippine Education but also worldwide is still an issue. According to Grant and Lapp (2011) being part of persistent efforts in achieving scientifically literate students, educational reforms also stress the need for a scientifically literate teacher with an essence and values of self- efficacy and proficiency (Bybee and Fuchs,2007).

The impact of the current literacy education makes it a pervasive force in education to study scientific literacy, teachers' self-efficacy and teaching proficiency of the science teachers. It is in this context that the researcher is interested in conducting an investigation on the scientific literacy as a basis for science teachers' self- efficacy and teaching proficiency.

STATEMENT OF THE PROBLEM

The primary purpose of this study is to determine the levels of scientific literacy, teacher's self- efficacy and teaching proficiency of the science teachers.

Specifically, this study answers the following questions:

1. What is the scientific literacy level of the science teachers when taken collectively and grouped according to age, sex, civil status, educational attainment, the length of service and number of hours in training attended?

2. What is the teaching self-efficacy levels (as determined by Bandura's Teacher Self-efficacy Scale) of the science teachers when facts were taken collectively and when grouped according to the variables mentioned above?

   2.1 Student Engagement
   2.2 Instructional Strategies
   2.3 Classroom Management

3. What is the teaching proficiency level (as determined by the Evaluation on Teaching Performance) of the science teachers when grouped and compared according to variables mentioned above?
   3.1 Planning
   3.2 Development
   3.3 Result

4.Is there a significant difference in the scientific literacy level of science teachers when they are grouped and compared according to variables mentioned above?

5. Is there a significant difference in the level of teaching self-efficacy of science teachers when they are grouped and compared according to variables mentioned above?

6. Is there a significant difference in the level of teaching proficiency of science teachers when they are grouped and compared according to variables mentioned above?

7. Are there significant relationships exist among science teachers' scientific literacy, teaching self-efficacy and teaching proficiency?

HYPOTHESES

The following hypotheses were advanced concerning the study:

1. There is no significant difference in the level scientific and technological literacy of science teachers when they are grouped according to age, sex, civil status, educational attainment, the length of service, and training's attended.

2. There is no significant difference in the level of teaching self-efficacy of science teachers when they are grouped and compared according to variables mentioned above.

3. There is no significant difference in the level of teaching proficiency of science teachers when they are when grouped and compared according to variables mentioned above.

4. There is no significant correlations exist among science teachers' scientific literacy, teaching self-efficacy and teaching proficiency.

THEORETICAL AND CONCEPTUAL FRAMEWORK

This study is anchored on the theories and concepts of teachers' self-efficacy (Bandura, 1986), teachers' teaching proficiency, and scientific literacy (RA 10533). Bandura's self-efficacy theory, as presented by Weibell (2011) highlights the rationale of this study in which the concept of self-efficacy is anchored upon that serves as a means of creating and strengthening expectations of personal efficacy. Research has shown that one's beliefs about capabilities to produce designated levels of performance that exercise influence over events that affect their lives explains one self-efficacy (Bandura, 1994). Studies agree that teachers' attitudes and beliefs embedded in an overlapping network of belief systems (Jones & Carter, 2007). Snyder and Lopez (2007) define self-efficacy as the individual believes he or she can accomplish using his or her skills under certain circumstances and withal has been thought to be a task-specific version of self-esteem (Lunenburg, 2011).

Teaching is a process that includes several components, the underlying dimension that teaching efficacy may influence the learner. In this study information on the self- efficacy of science teachers were derived from the three facets of self- efficacy as proposed by Tschannen-Moran and Woodfolk Hoy (2001) in Bandura, (1994). These are the efficacy in student engagement, effectiveness in instructional strategies and efficiency in classroom management. Efficiency in student engagement speaks of teachers' belief in helping and motivating students to think critically; motivates students to show interest towards school works; guiding students to value learning and beliefs of assisting families in helping their children to do well in school. Supported by the study conducted by Tschannen-Moran (2001) considers the extent to which the teacher believes he or she has the capability to affect student performance. Guskey and Passaro (1994): revealed that teachers' beliefs or conviction could influence how students learn, even those who may be difficult or unmotivated.

Efficacy of instructional strategies, on the other hand, delves on teachers' self-efficacy in dealing with instructions in the classroom. These include teachers' skills in the art of questioning, leveling of lessons to learners' capacity using a variety of assessment, and using alternatives in the classroom (Pelaez, 2013). Woolfolk Hoy et al. (2009) conclude teachers judgments are the result of an interaction between (a) a personal analysis of teaching task in context and (b) a self-assessment of teaching competence.

Lastly, efficacy in classroom management encompasses activities concerning teachers' skills in dealing with behavior in the classroom; establishing routines; and responding to defiant students. As a whole, this facet discusses teacher's beliefs in managing the affair of the class which specifically deals with classroom behaviors. Findings made by Davis, Fedor, Parson, & Herold (2000) as cited in Redmond (2010) that support the premise of self-efficacy reveals individuals who perform well develop high self- efficacy. Likewise, it has been found to lead to higher performance.

Understanding science and how students learn science to aid in forming a set of beliefs

that guide practice and behavior within the classroom (Bryan, 2012; Riggs & Enochs,

1990). Substantially, science teachers' content knowledge plays a significant role in their science teaching efficacy beliefs (Palmer, 2006; Posnanski, 2002). Marshall, Horton, Igo, and Switzer (2008) studied over a thousand teachers at the elementary and secondary levels and found that teachers with higher self-efficacy were more likely to have their students engage in inquiry.

Moreover, according to Popoola and Owule in 2007 showed a significant correlation in the case of employees when demographic variables are compared to career commitment. Age, gender, marital status, job tenure, and the educational level considered germane to career commitment. Bhanthumnavin (2003), for example, found gender as correlated to performance ratings. In another study, age is considered as associated with career commitment in human service professionals (Cherniss, 1991). Another explanatory variable that may potentially have a large effect on job performance is ethnicity.

Teaching expertise as referred to proficiency serves as the guiding dimension in this study. Proficiency means the knowledge, abilities, and attitudes which teachers need to have to promote learning processes and design lessons (cf. Reinmann 2011). It can be proficiency levels, scales, and cut-off scores on standardized tests and other forms of assessment. Researchers support the notion that the higher levels of teacher knowledge in subject matter also contribute to the higher achievement of the student (Chaney, 1995; Goldhaber and Brewer, 1997, 2000). Teacher knowledge and instructional expertise have found in correlational and pre- and posttest studies to be related to student reading achievement Reid & Weiser, 2009. Hence, teaching proficiency and approaches to science delivered by the teacher are integral to science education (Schweingruber and Shouse, 2007).

As guided by RA 10533 known as an act "Enhanced Basic Education Act of 2013,"

the Basic Education Curriculum Development of the Department of Education adheres to the following standards and principles. To ensure quality instruction and effective teaching, as a mandate in section 10.2 of the said Act stipulating; the curriculum must be learner- centered, inclusive and developmentally appropriate. It must be relevant, responsive and research-based. It must be gender and culture-sensitive. It must be globally contextualized. It must use pedagogical approaches that are constructivist, inquiry-based, reflective, collaborative and integrative.

Cited in the K to 12 curriculum goals in science education, Science education aims to develop scientific literacy among learners that prepares them to be participative citizens who can make judgment and decision regarding applications of scientific knowledge that may have social, health, or environmental impacts. Moreover, science promotes a strong link between science and technology, including essential technology, thus preserving our country's cultural heritage. To be part of the emerging global village of the 21st-century one must become scientifically and technologically literate.

strategies; and maintain a positive outlook in teaching challenging students (Scharlach, 2008). Teacher's perceived self-efficacy sets more challenging goals and maintain the high sense of efficacy in teaching and can motivate students and enhance students' cognitive development. Also, proficient performance is partly guided by higher-order self-regulatory skills.

In this study the level of scientific literacy will be determined to address issues on the self- efficacy in relation also to the teaching proficiency of 21st Century science teachers. This study includes variables such as age, gender, civil status, educational attainment, major, grade level taught, length in service, trainings attended and performance rating. These are the variables that will influence result to better learning. The result of this study will present the current status of teachers' scientific literacy, teachers' self-efficacy and teaching proficiency in the field. The active involvement of the teachers to produce high - track students critically and scientifically able are profoundly shaped by science and technology.

To Blake (2015) science literacy requires critical thinking and engaging activities. To understand and engaged in significant activities and discussion involves a concept of science and technology. PISA (2013) claims scientifically literate embodies the purpose of science education anchored to the concept of scientific literacy where both comprises the knowledge of science and science-based technology.

Scientific literacy is an appreciation of the basic principles of science that one must grow and comprehend exponentially.

Research in the area of the teacher's beliefs, skills and confidence likewise exemplify a favorable condition to aggravate students' high levels of achievement. Efficient teachers are prone to try various teaching strategies and implement positive classroom management

METHODOLOGY

This investigation was conducted at Sagay City, 81 kilometers away from Bacolod City, the capital of Negros Occidental. The study make used of forty-two (42) Junior High School science teachers randomly- selected respondents.

As this study basically aimed to determine the level of Scientific literacy, self- efficacy, teaching proficiency and its relationship, the descriptive - correlational survey method of research is utilized.

The research made used of standardized instrument consisted of the different parts namely: (a) Scientific Literacy Skills Test, adapted by the researcher from the work of Pedreno, Terregrosa and Murcia (2014); (b) Teacher Self-Efficacy Scale Test, a 24-item test adapted from the study conducted by Tschannen-Moran, Hoy in 2006 and Bandura (2001); lastly, the Teaching Proficiency Evaluation. The instruments were modified and revised according to the recommendation of the validators to suit to the purpose of this study.

The researcher employed the following basis of interpretation and statistical design, to address the specific problems stated in this study:

To determine the level of self-efficacy of the science teachers, the researcher adopted the scale and interpretation of results from the study of Solivio (2011) and Pelaez (2013) the following scales and interpretation were used:

Numerical Description/ Scale	**Verbal Interpretation**
7.41 - 9.00	Very High
5.81 - 7.40	High
4.21 - 5.80	Average
2.61 - 4.20	Low
1.00 - 2.60	Very Low

To determine the level of scientific literacy of science teachers, the researcher follows the scale that determines the interval of scores computed as highest score minus the lowest score divided the range of the interpretation. This interpretation is based on the recommendation and suggestion of the

Range	Interpretation
22.00 - 28.00	Highly proficient
15.00– 21.00	Proficient
8.00 – 14.00	Basic
0.00 – 7.00	Below basic

As to the level of teaching proficiency of science teachers, the researcher adopted the Teacher Performance Index (TPI) in the Competency-based Performance Appraisal System for Teachers (CB-PAST) scale used in interpreting the teacher performance.

Range	Interpretation
4.00 - 5.00	Highly proficient
3.00 – 4.00	Proficient
2.00 – 3.00	Basic
1.00 – 2.00	Below basic

Moreover, Mean, t-test for independent means, analysis of variance (ANOVA) and Pearson-Product Moment Correlation Coefficient (Pearson r) were used to statistically analyze the gathered data.

RESULTS AND DISCUSSION

The discussion of the result includes interpretation and analysis of the data gathered, arranged in tabular forms according to the specific problems and hypotheses of this investigation.

Level of Scientific Literacy of the Science Teachers When Taken Collectively and Grouped according to Age, Sex, Civil Status, Educational Attainment, Length of Service and Number of Hours in Training Attended

Statistical analysis of the data in Table 1 reveals that the level of scientific literacy of the science teachers when taken collectively (M= 11.52, SD= 3.42) is verbally interpreted as "basic". Examination of the data in the table, however, shows that single respondents and the non-teaching profession graduates obtained a slightly higher mean than the married and teaching professional group.
Collectively, this shows that scientific literacy among science teachers with different demographic profile obtained low mean result and that does not reveal any changes in the mean results. This may imply that science teachers experience difficulties in understanding and analyzing science and technology concept.

Table 1 Scientific Literacy Level of the Science Teachers when Taken Collectively and Grouped According to Age, Sex, Civil Status, Specialization, Length of Service and Number of Hours in Training Attended (N=42)

Categories	Mean	SD	Interpretation
Age			
Younger	11.96	4.19	Basic
Older	10.94	3.67	Basic
Sex			
Female	11.24	3.90	Basic
Male	12.56	4.25	Basic
Civil Status			
Single	13.42	3.92	Basic
Married	10.77	3.78	Basic
Length of Service			
Shorter	11.58	4.23	Basic
Longer	11.44	3.60	Basic
Undergraduate Preparation			
Education	11.10	3.79	Basic
Non-Education	14.30	3.40	Basic
Training			
Less	12.38	4.27	Basic
More	10.67	3.51	Basic
As a Whole	11.52	3.96	Basic

Concurrence to the results presented in this regard supports the findings of Rubini, Ardianto, Pursitasari and Permana (2016) that scientific literacy is a remarkable benchmark for determining the high and low quality of science education in a country.

Confirmatory results were revealed in the studies of Bacanak and Gokdere (2009), investigating the primary school teacher candidate level of the scientific literacy. In the conduct of two scientific literacy test to the teacher candidates showed the lowest success rate of 39.70, primary teachers are at least minimally knowledgeable (Alebous, 2013) on the items of science and technology. Rubini & Ardianto (2014) also affirms that upon the recommendation of the study, average scientific literacy teachers was 63% to the overall aspect, which composed of 65% of content, 62% process and 62% applications of science. Based on these findings, the claim that science teachers do not have enough level of scientific literacy is possible.

The table also reflects that regarding the first variable, age, the level of scientific literacy can be interpreted as "Basic" for the younger group (M=11.96, SD=4.19) and (M=10.94, SD= 3.67) for the older group. The results reveal that the level of scientific literacy of both groups is fair even, mean obtained individually is in 1.02 difference for the younger science teacher and are moderately deviated as shown in the standard deviation values presented in Table 1, that means younger science teachers are fair better than the older respondents. However, Anelli (2013) suggests that both must aim at instilling an understanding of scientific inquiry.

Based on the overall recommended findings, Maughan, O'Neale, and Ogunkola (2013) revealed that there are no significant differences in the level of scientific literacy based on level of study and age range (Iúık and Terzi, 2008).Younger and older science teachers are on the same track and pace.

Considering sex as one of the variables, the level of scientific literacy of male (M=12.56, SD= 4.25) and female (M=11.24, SD= 3.90) science teachers with a mean difference of 1.32 was also interpreted as "Basic." Although the results interpretation shows the same, evidently males scored better when compared to females as showed in the mean and the standard deviation values, respectively.

Results of the present study conform to the findings of Maughan, O'Neale, and Ogunkola (2013) that sex greatly contributes most and significantly to the variations in the level of scientific literacy of the undergraduate chemistry students. Data collected from the Program for International Student Assessment in Hong Kong (HKPISA, 2012) suggested that teenage boys dominate girls in most of the cognitive dimensions. Bacanak (2009) and Aina (2014) disclosed similar findings in gender-related differences in science and technology test that male teacher candidates have a correct response than female teacher candidates and shows no significant relation between academic success and scientific literacy (Sulun, Ekiz, and Yurttaz, 2009).

However, as negated in the study of Gaduan (2016) that when females and males were grouped differently in the professional education courses, females ranked consistently higherthanmales. Goni, Aliand Bularafa's (2015) study revealed that female teachers consistently outperformed their male counterparts. The literature showed and confirmed that despite the attainment of scientific literacy by all (male and female) Science and Technology, Engineering and Mathematics (STEM) education is tilting towards low scientific literacy.

One of the variables in this study that is taken into account is the Marital Status or Civil Status; Table 1 reveals the level of scientific literacy of single science teachers (M=13.42, SD= 3.92) and married science teachers (M=10.77, SD= 10.77) as "Basic." The result shows that when grouped according to the marital status, obtained a low result for single science teachers are slightly higher than that of the married science teachers with a mean difference of 1.67, for the science teachers with single marital status.

The result of the study is supported by several findings. Alufohai and Ibhafidon (2015) opines that based on the mean scores obtained by the performance of the students taught by single and married teachers explicitly showed up and performed better, but no significant difference when asked individually. According to Kong (2008), who found single teachers to be more dynamic, more vigorous and motivated in the job. Further discussed by Tyagi (2013) that marital status has influenced the perception of secondary school teachers. Single teachers achieved a higher level of understanding than married teachers concerning their organization. In contrary, Ayeop (2003) concurred that married

teachers very satisfactorily performed their job and found satisfaction in their chosen job. Literature of the studies suggests that when teachers lack sufficient pedagogical content knowledge, that is, teachers does not

in delivering higher order thinking skills. This reflects the result of this study wherein undergraduate education preparations as variable were also used to compare scientific literacy level. The level of scientific literacy of science teachers when grouped according to education preparations, teachers obtained a mean gain of 11.10 with standard deviation of 3.79 and is interpreted as "Basic", on the other hand, considered "Proficient" with mean gains of 14.30 and deviates 0.39 shown in the standard deviation in the table when grouped according to non-education preparation. This discussed an important difference between education and non-education graduates' respondents. A favorable higher mean score obtained by science teachers in non- education preparation. This also disclosed that respondents grouped found in the non-education preparation are mostly graduates of BS. Biology, BS. Nursing, Agriculture, Chemical Engineering and other sciences.

These findings can be proved by the study conducted by Tyagi (2013) that teachers in the different stream like Arts & Commerce are likely to have a higher level of perception than science stream teachers concerning their clarity and presentation. Moreover, research conducted by Zhang (2008) revealed that teacher education played a smaller role in the result of student's outcome, which only when teachers already stay longer in the teaching profession. The analysis of data confirms the Trends in International Mathematics and Science Study 2003 (TIMSS 2003) that the presence of highly qualified teachers in every classroom brings out quality student learning. Lastly, when teachers training attended are taken into context, as shown in the table presented above, the scientific literacy level of science teacher when grouped with a lesser number of hours training attended (M= 12.38, SD= 4.27). It is interpreted as "Basic," same as true when grouped with most numbered hours training attended (M= 10.67, SD=3.57)

The result shows that when grouped according to teachers training's attended, science teachers with less number of hours is relatively higher with 1.71 mean differences based on the obtained mean results than those engaged with most numbered hours training attended. Supported by the study of Wenglinsky (2002) that teachers attending professional development more often does not affect students' achievement, basically, explain teachers does not directly engage with the students.

This result was negated by the summary of findings mentioned by Clotfelter (2005) that evidence had shown better-trained teachers tend to drew out greater student ability. Likewise, Harris and Sass (2008) denied the findings of the present study. Harris and Sass pointed out that professional development that is content- oriented positively influence middle and school math teacher productivity in both pre-service and in-service forms. It can be surmised that for a teacher who is not learning and growing will result in students who are not learning and growing at some point Ghildyal (2015).

Level of Teaching Self-Efficacy of the Science Teachers in Students Engagement, Instructional Strategies and Classroom Management When Taken Collectively and Grouped According to Age, Sex, Civil Status, Educational Attainment, Length of Service and Number of Hours in Training Attended

Results of the analysis of the data shown in Table 2 reveals that the level of teachers teaching self-efficacy in pertain to the student engagement, instructional strategies, and classroom management when taken as a whole is "High" with a mean score of 7.34 and standard deviation of 1.11. However, when facets of teaching self-efficacy is taken individually, obtained mean scores is interpreted as "High" (M =7.32, SD = 1.19); "Very High" (M = 7.44, SD = 1.05); and "High" (M = 7.27, SD =1.10), respectively. Results show that the level of teaching self-efficacy of teachers varies from high to very high as reflected in the data presented, and that is ranging from mean scores of 7.27 to 7.44 and deviates from 1.10 to 1.05 correspondingly. The current study reveals that among the three facets of self- efficacy, the highest mean is obtained in the instructional strategies.

Table 2 Teaching Self-Ef ficacy Levels of the Science Teachers in Students Engagement, Instructional Strategies and Classroom Management When Taken Collectively and Grouped Ac- cording to Age, Sex, Civil Status, Specialization, Length of Service and Number of Hours in Training Attended

Categories	Student Engagement			Instructional Strategies			Classroom Management			As a Whole		
		SD	Int		SD	Int		SD	Int		SD	Int
Age												
Younger	7.31	1.17	High	7.34	1.13	High	7.30	1.21	High	7.32	1.17	High
Older	7.32	1.21	High	7.57	0.91	Very High	7.24	0.94	High	7.38	1.03	High
Sex												
Female	7.27	1.17	High	7.33	1.06	High	7.25	1.14	High	7.30	1.13	High
Male	7.50	1.23	Very High	7.63	0.38	Very High	7.36	1.10	High	7.50	1.06	Very High
Civil Status												
Single	7.23	1.27	High	7.44	1.13	Very High	7.45	1.14	Very High	7.37	1.18	High
Married	7.35	1.15	High	7.44	1.01	Very High	7.20	1.08	High	7.33	1.09	High
Length of Service												
Shorter	7.30	1.21	High	7.33	1.12	High	7.27	1.20	High	7.30	1.17	High
Longer	7.34	1.16	High	7.63	0.89	Very High	7.27	0.93	High	7.41	1.01	Very High
Undergraduate Preparation												
Education	7.22	1.19	High	7.41	1.04	Very High	7.26	1.11	High	7.30	1.12	High
Non-Education	7.92	0.95	Very High	7.60	1.06	Very High	7.33	1.05	High	7.62	1.05	Very High
Training												
Less	7.33	1.19	High	7.33	1.16	High	7.30	1.25	High	7.32	1.20	High
More	7.30	1.19	High	7.55	0.91	Very High	7.24	0.94	High	7.37	1.03	High
As a Whole	7.32	1.19	High	7.44	1.05	Very High	7.27	1.10	High	7.34	1.11	High

The result shows how teachers teaching self-efficacy varies when three facets is taken into account. Teachers own beliefs and views on his or her capacity is considerably influencing. A study headed by Lunenberg (2011) poses that self- belief as referred to self-efficacy has greatly influence people's ability to learn that is reflected on their good performance and motivation to perform the task successfully. These findings support the premise of self-efficacy as cited in Redmond (2010) study that high self-efficacy lead to high performance. As noted in the study of Johnson (2010) conducted in United States to prospective teachers, found out that extensive experiences and modelling positively influenced pre-service teachers' self-efficacy for a better literacy instruction. Thus, Polk (2006) claimed from the study of Pelaez (2013), that personality of the teacher has a ubiquitous influence in the classroom, and has impact to the learning outcomes.

Further analysis of data occurs that when grouped according to age, the level of teaching self-efficacy of younger and older science teachers when facets were taken altogether is "High". This is embodied by the obtained mean scores of 7.32 and 7.38, respectively. Correspondingly, when facets of self-efficacy will be taken individually, the level of teaching self-efficacy of younger respondents in terms of student engagement (M=7.31, SD=1.17), instructional strategies (M=7.34, SD=1.13) and classroom management (M=7.30, SD=1.21) is relatively "High" which is reflected in table 2. On the other hand, older respondents obtained comparatively higher mean. The obtained mean scores reflected in the table ranges from 7.24 to 7.50 and deviated from 1.21 to 0.91 is verbally interpreted as "High".

It can be gleaned from the data that science teachers categorized as older respondents have higher sense of teaching self-

efficacy when compared to the younger ones. This explains that older teacher do better than those younger ones (Figueroa, 2008).

The table also reflects the result of the study when grouped according to sex. The level of teachers teaching self-efficacy of male (M=7.50, SD=1.06) is "Very High" and female (M=7.30, SD=1.13) is "High" when three facets of self- efficacy is taken into consideration. However, when the three facets are taken individually, male teachers possessed a great extent of self- efficacy in terms of student's engagement (M=7.50, SD=1.23) and instructional strategies (M=7.63, SD=0.38). Though female teachers are more homogeneous and shows a slight deviation of 0.07 than males in this study, it still reveals superiority of the male.
Support for this surprising revelation is the study entitled" The role of Self-efficacy and Gender difference among adolescents" conducted by Kumar (2006), Klassen and Chiu (2010) males possess high self-efficacy and perform more, hence, males have better intelligence than female. This explains that women had lesser tolerance to workload stress. Numerous researches noted that female teachers report higher stress level than males (Chaplain, 2008; Ontoniou, Polkychroni and Vlachakis, 2006), Mackay and Parkinson (2010) in South Africa, indicated that males had higher self-efficacy than females, and in study Lui and Ramsey (2008) connotes those female experiences less job satisfaction than male. In contrary to the reports, Arslan (2013) and Ongowo and Hungi (2014), disclosed female teachers' self-efficacy is higher when compared to male teachers. Concurrent to previous report, a Danish study where prospective teachers are dominated by female revealed that in terms of level of empathy, female teachers are higher compared to male teachers. That is the higher the level of empathy, the higher level perceived self- efficacy by the teachers (Anderson, 2011).

As to the civil status, it is gleaned from the table that the level of teaching self-efficacy of

single and married science teachers when taken collectively is "High" with an obtained mean score of 7.37 and 7.33. This means that single and married science teachers almost have the same beliefs to improve the student's learning outcome and creates a better classroom setting. However, when three facets of self-efficacy is taken individually; instructional strategies obtained the highest mean score both in single and married science teachers with the same mean score of 7. 44 and is verbally interpreted as "Very High" with a marked difference of 0.12 in standard deviation. The results show that both single and married science teachers are deeply engaged and took time with the use of instructional strategies in the class. This claim is conformed by Islahi and Narseen (2013) and Enriques (2010) in the study in Bahrain that marital status or civil status influence significantly teachers' effectiveness in the used of instructional strategies.

This finding deviates from the study conducted by Odanga, Raburu and Aloka (2015) entitled "Influence of Marital Status on Teachers' Self-efficacy in Secondary Schools of Kisumu County, Kenya" that it was found to have significant influence in the classroom management of teacher's self-efficacy in favor of single teacher.
Contrary to the reports and findings on classroom management and instructional strategies of teachers' teaching self-efficacy, another facet, the student engagement reveals a different result. Presented also in Table 2 , the mean score result of 7.23 and standard deviation of 1.27 of single teachers and a mean of 7.35 with standard deviation of 1.15 of married teachers grouped accordingly, generally implies a fair difference in the mean score and collectively can be describe both statistically as "high".

This displayed similar level of self- efficacy in student engagement. Married teachers are more engaged with students learning. Ascertain by Munini (2010) cited in Pianta (2012), Harbour (2015) and Oganda,

Raburu and Aloka (2015) studies that teachers self-efficacy shows a positive influence in favor of married teachers when student engagement is taken into account.

On the length of service and level of teachers' teaching self-efficacy across the three facets, respondents are grouped as shorter and longer years in teaching experience obtained M=7.30 and SD=1.21 ; M=7.34 and SD=1.16

in student engagement, M=7.33 and SD=1.12 ; M=7.63 and SD=0.89 in instructional strategies and M=7.27 and SD=1.20; M=7.27 and SD=0.93 in classroom management and were interpreted collectively as "High" (M=7.30 and SD=1.17) for teachers with shorter years in teaching and "Very High" (M=7.41 and SD=1.01) with longer years in teaching experience. This finding shows a marked deviation with respondents having longer teaching experience. Analysis of data also shows that science teachers in both group reflects same result in student engagement and classroom management, though slight difference is observed in the mean scores and standard deviation.

Literature that showed similar results are Woolfolk Hoy and Spero (2005) conducted a longitudinal study which collected a data that claims significant rise in the self-efficacy after training. The same result shown in Wolters and Daugherty (2007) study were their modest effects on self-efficacy when instructional strategies are concern. According Protheroe (2008) one important factor that determines sense of self-efficacy is the experience. Woolfolk Hoy (2000) affirms that the most powerful influence in the development of the teachers' teaching self-efficacy is the mastery experience. Using also the mean and standard deviation results, Table 2 presents when grouped according to the education preparation that is education graduates and non-education graduates, the level of teachers' teaching self- efficacy varies as a whole. It was found that science teachers who are education graduates with specialized fields such as general science, biology, chemistry and physical science is "High" obtaining a mean score of 7.30 and standard deviation of 1.12. This finding is comparatively lower than those science teachers who graduated in Arts and Sciences and or other fields. The obtained mean results of the non- education graduates is "Very High" (M=7.62 and SD=1.05) collectively and is also "Very High" (M=7.94 and SD= 0.95) when measured individually and focused on the student engagement. Furthermore, findings revealed that both grouped observably to obtained "Very High" results (M=7.41 and SD=1.04; M=7.60 and SD=1.06) when instructional strategies of teaching self-efficacy is measured and "High" (M=7.26 and SD=1.11; M=7.62 and SD=1.05) in classroom management. Subsequently, when education graduate grouped is analyzed according to the level of self-efficacy in student engagement obtained mean score is "High" (M=7.22 and SD=1.19). Garancho and Marpa (2012) revealed same result considering faculty members educational attainment disclosed that self-efficacy of the faculty can be influenced by their educational attainment. Researches show that a certain amount of efficacy doubt benefits teachers' learning of new practices required by educational reform (Wheatley, 2002).

Results of the present study on training of teachers however was confirmed by Clark and Bates (2003) that schools with highly developed professionals support and reinforce skills and efficacy beliefs. This elaborates teachers training and professional development enhances teachers' effectiveness. Lumpe, Vaughn, Henrikson and Bishop (2014) contested that teacher's belief system is improved by the teachers' professional development. Teachers with high regard to his or her work affects one's effectiveness as a whole.

Level of Teaching Proficiency of the Science Teachers when Grouped and Compared according to aforementioned Variables

Statistical analysis of the data in Table 3 revealed that the teaching proficiency level of the science teachers, when taken as a whole, is "Highly Proficient" with a mean score of 4.03 and standard deviation of 0.68. Examination of the data in the table, however, also showed that the level of teaching proficiency of the respondents varies in planning (M=3.85 and SD=0.69), development (M=4.08 and SD=0.69) and a result (M=4.01 and SD=0.65). These differences as shown in the mean and standard deviation reflect that when taken altogether teachers' proficiency is considerably high.

Consequently, this shows that teaching proficiency among science teachers with different demographic profile obtained relatively similar mean result and that explains positive monotonous results. This may imply that when science teachers have clearer set of goals, substantiated with content knowledge and innovative techniques increases students' achievement, thus, view as effective teacher (Darling-Hammond, 2000). Tucker and Stronge (2005) as cited in the goal of the National Commission on Teaching and America's Future (2006) asserts that if teachers do, competent and caring, it will make a difference in the student learning.

Table 3 Teaching Proficiency Levels of the Science Teachers when grouped and compared according to Age, Sex, Civil Status, Length of Service and Number of Hours in Training Attended

Differences in the Level of Scientific Literacy of the Science Teachers

Categories	Planning			Development			Result			As a Whole		
		SD	Int		SD	Int		SD	Int		SD	Int
Age												
Younger	3.74	0.67	HP	4.06	0.70	HP	3.95	0.62	HP	3.99	0.68	HP
Older	4.00	0.69	HP	4.10	0.67	HP	4.10	0.68	HP	4.09	0.67	HP
Sex												
Female	3.79	0.67	HP	4.09	0.70	HP	4.01	0.65	HP	4.03	0.69	HP
Male	4.08	0.73	HP	4.03	0.65	HP	4.03	0.67	HP	4.04	0.67	HP
Civil Status												
Single	3.92	0.54	HP	4.21	0.61	HP	4.02	0.54	HP	4.12	0.59	HP
Married	3.83	0.74	HP	4.03	0.71	HP	4.01	0.69	HP	3.99	0.71	HP
Length of Service												
Shorter	3.77	0.69	HP	4.07	0.70	HP	3.95	0.64	HP	3.99	0.69	HP
Longer	4.00	0.67	HP	4.10	0.66	HP	4.12	0.65	HP	4.09	0.66	HP
Undergraduate Preparation												
Education	3.80	0.68	HP	4.06	0.69	HP	4.00	0.65	HP	4.01	0.69	HP
Non-Education	4.17	0.62	HP	4.17	0.63	HP	4.10	0.61	HP	4.15	0.63	HP
Training												
Less	3.71	0.63	HP	4.04	0.69	HP	3.92	0.60	HP	3.97	0.68	HP
More	3.99	0.72	HP	4.11	0.69	HP	4.11	0.68	HP	4.09	0.78	HP
As a Whole	3.85	0.69	HP	4.08	0.69	HP	4.01	0.65	HP	4.03	0.68	HP

Theresultsoft-testforindependentofmeanstodeterminethesignificantdifferencesamongthe levelofscientificliteracyofscienceteacherswhengroupedaccordingtoage, sex, civil status, educational attainment, length of service and number of hours of training attended are presented in Table 4.

Table 4 Comparative Statistics in the Level of Scientific Literacy when grouped according to Age, Sex, Civil Status, Educational Attainment, Length of Service and Number of Hours of Training Attended

Categories	Mean	SD	p-value	Decision	Significance @ a = 0.05
Age					
Younger	11.96	4.19	0.41	Do not reject Ho	Not Significant
Older	10.94	3.67			
Sex					
Female	11.24	3.90	0.42	Do not reject Ho	Not Significant
Male	12.56	4.25			
Civil Status					
Single	13.42	3.92	0.06	Do not reject Ho	Not Significant
Married	10.77	3.78			
Length of Service					
Shorter	11.58	4.23	0.91	Do not reject Ho	Not Significant
Longer	11.44	3.60			
Undergraduate Preparation					
Education	11.10	3.79	0.09	Do not reject Ho	Not Significant
Non-Education	14.30	3.40	0.09	Do not reject Ho	Not Significant
Training					
Less	12.38	4.27	0.16	Do not reject Ho	Not Significant
More	10.67	3.51			

Table 4 shows the descriptive statistics of the respondents on significant difference in the level of scientific literacy when taken as a whole and when aforementioned variables were taken individually, significant differences was observed. A marked difference of their obtained mean scores was noted. This is supported by the obtained mean scores with probability values of 0.14, 0.42, 0.06, 0.91, 0.09 and 0.16, respectively. Since the obtained probability values are higher than 0.05 alpha level of significance, hypothesis which states that there is no significant difference in the level of scientific literacy of science teachers as a whole is therefore accepted.

Results presented in this regard reflect that science teachers did not differ significantly in the level of scientific literacy. This can be taken to mean that levels of scientific literacy of science teachers have no greater impact shown as in terms of scientific understanding with regards to the variables selected. When individual variable such as civil status and undergraduate preparations is discussed and interpreted, the obtained p - value is 0.06 and 0.09 respectively, which is higher than the 0.05 level of significance means that there is no significant difference in the level of scientific literacy among science teachers although it conforms with the findings of Brown and Graf (2013) on marital status towards financial literacy, singles have a significant propensity to lower financial literacy levels, when compared to married individuals. No studies and literature that recommend of significant differences altogether.

Differences in the Level of Teachers' Self- Efficacy of the Science Teachers

The results of t-test for independent of means to determine the significant differences among the level of teaching self- efficacy of science teachers when grouped according to

age, sex, civil status, educational attainment, length of service and number of hours of training attended are presented in Table 5 and 6.

The significant difference of science teachers in student engagement a facet of self- efficacy is discussed, the p-value obtained is 0.96, 0.15, 0.42, 0.80 and 0.85, respectively. Hence, the p-value of the selected variables in table 5 shows a high degree of probability value compared to the 0.05 alpha level of significance, it is said to be that the null hypothesis is true and therefore it is accepted except in undergraduate preparation which is rejected. Thus, there is no significant difference in the level of Self- efficacy in student engagement among teachers when grouped according to the aforementioned variables.

This finding means that the level of self-efficacy in student engagement shows no vast difference when variables are taken individually. Premise studies conducted that school teachers have almost the same self- efficacy (Pelaez 2013), although it was observed in an old adage of time that in sexes, female usually is more attentive and more efficient, where in males can equate the same (Ghaith and Shaabah (1999). Abubakar and Aguguo (2011), Ejimaji and Emekene (2012) revealed the same result that age was insignificant. More to these studies revealed that gender, age, grade level taught, education, training attended were not found related to the teachers perception of self- efficacy of any teaching categories.

Table 5 also show the result and findings of obtained p - value in the degree of significant difference in teachers' self- efficacy when instructional strategies is taken into context. As shown in the table 5, the obtained p- value of age, sex, civil status, length of service, education preparation and training attended are 0.04, 0.08, 0.97, 0.01, 0.25 and 0.06 respectively.

Table 5 Comparative Statistics in the Level of Teaching Self- efficacy in Student Engagement and Instructional Strategies and when grouped according to Age, Sex, Civil Status, Educational Attainment, Length of Service and Number of Hours of Training Attended

Categories	Student Engagement					Instructional Strategies				
		SD	p-value	Decision	Significance @ α = 0.05		SD	p-value	Decision	Significance @ α = 0.05
Age										
Younger	7.31	1.17	0.96	Do Not Reject H_o	Not Significant	7.34	1.13	0.04	Reject H_o	Significant
Older	7.32	1.21				7.57	0.91			
Sex										
Female	7.27	1.17	0.15	Do Not Reject H_o	Not Significant	7.33	1.06	0.08	Do Not Reject H_o	Not Significant
Male	7.50	1.23				7.63	0.38			
Civil Status										
Single	7.23	1.27	0.42	Do Not Reject H_o	Not Significant	7.44	1.13	0.97	Do Not Reject H_o	Not Significant
Married	7.35	1.15				7.44	1.01			
Length of Service										
Shorter	7.30	1.21	0.80	Do Not Reject H_o	Not Significant	7.33	1.12	0.01	Do Not Reject H_o	Significant
Longer	7.34	1.16				7.63	0.89			
Undergraduate Preparation										
Education	7.22	1.19	0.00	Reject H_o	Significant	7.41	1.04	0.25	Do Not Reject H_o	Not Significant
Non-Education	7.92	0.95				7.60	1.06			
Training										
Less	7.33	1.19	0.85	Do Not Reject H_o	Not Significant	7.33	1.16	0.06	Do Not Reject H_o	Not Significant
More	7.30	1.19				7.55	0.91			

When indicators of self-efficacy were considered individually, indicators such as sex, civil status, education preparation and number of hours training attended showed an obtained p - value of 0.08, 0.97 and 0.25 that is greater than 0.05 alpha level of significance. In this regard, hypothesis which states that there is no significant difference in the level of teachers' self-efficacy in terms of instructional strategies domain when taken individually is therefore not rejected.

Statistical results also reveal that age and length of service shows lesser p - value of 0.04 and 0.01 than the standard p - value of 0.05 alpha level of significance. It can be inferred that the hypothesis which states that there is no significant difference in the level of science teachers' self- efficacy in instructional strategies is in focus, when grouped according to age and length of service is therefore

rejected. This means that younger and older respondents in term of age and lesser and longer stay in service do differ significantly in the level of self-efficacy in terms of efficacy in instructional strategies.

This comes to a discussion between different researchers that point out different perspectives towards self-efficacy. Pelaez (2013) once noted that older teacher excel at work naturally. Peterson (2013) believes that under different condition over time, body of knowledge increases both his performance and self- efficacy. Teacher's self-efficacy basically is influence by age and years of experience. According to Moran and Woolfolk Hoy (2000) it is not surprising that novice teachers obtained lower scores because of their inexperience in teaching.

Comparative Statistics in the Level of Teaching Self- efficacy in Classroom Management and as a Whole and when Grouped according to Age, Sex, Civil Status, Educational Attainment, Length of Service and Number of Hours of Training Attended

Categories	Classroom Management					As a Whole				
		SD	p-value	Decision	Significance @ α = 0.05		SD	p-value	Decision	Significance @ α = 0.05
Age										
Younger	7.30	1.21	0.60	Do Not Reject H_o	Not Significant	7.32	1.17	0.41	Do Not Reject H_o	Not Significant
Older	7.24	0.94				7.38	1.03			
Sex										
Female	7.25	1.14	0.38	Do Not Reject H_o	Not Significant	7.30	1.13	0.02	Reject H_o	Significant
Male	7.36	1.10				7.50	1.06			
Civil Status										
Single	7.45	1.14	0.07	Do Not Reject H_o	Not Significant	7.37	1.18	0.61	Do Not Reject H_o	Not Significant
Married	7.20	1.08				7.33	1.09			
Length of Service										
Shorter	7.27	1.20	0.97	Do Not Reject H_o	Not Significant	7.30	1.17	0.11	Do Not Reject H_o	Not Significant
Longer	7.27	0.93				7.41	1.01			
Undergraduate Preparation										
Education	7.26	1.11	0.66	Do Not Reject H_o	Not Significant	7.30	1.12	0.00	Reject H_o	Significant
Non-Education	7.33	1.05				7.62	1.05			
Training										
Less	7.30	1.25	0.66	Do Not Reject H_o	Not Significant	7.32	1.20	0.52	Do Not Reject H_o	Not Significant
More	7.24	0.94				7.37	1.03			

Presented in Table 6, reflects the computed p - value of age (0.60), sex (0.38), civil status (0.07), Length of service (0.47), Education preparation (0.66) and number of hours training attended (0.66) in classroom management of teachers' self-efficacy.

The computed p - value of the selected variables show higher test value when compared to the standard probability value of 0.05 alpha.

This result indicates that there is no significant difference in the teachers' self-efficacy among science teachers when grouped according to age, sex, civil status, length of service, education preparation and number of hour training attended. Hence, the statement of hypothesis which stated that there is no significant difference in the level of teachers' self-efficacy in classroom management when grouped according to the above variables is not rejected.

Therefore, the selected variables do not influence teachers' self-efficacy in classroom management. In contrary to Yilmaz and Cavas (2008) study reported there is a change in teachers' self-efficacy in classroom management with time whether the teacher had changed marital status or not. This is somewhat accepting to Hicks (2012) analyzed how classroom management, teacher age, and self-efficacy levels were related.

Moreover, the data in Table 6 show a statistical description of result when level of significant difference of science teachers' self-efficacy is taken as a whole.

The results poses divided results of significant differences exist in the level of teachers' self-efficacy among science teacher respondents when aforementioned variables are taken individually and in a grouped.

Furthermore, data presents that the computed p - value of age (0.41), civil status (0.61), length of service (0.11) and number of hours training attended (0.52) taken collectively displays a higher value than the test value at 0.05 level of significance. This result indicates that there is no significant difference in the level of teachers' self-efficacy among science teacher respondents when variables are taken in a grouped. This can be taken to mean that the whether it's an older or younger, married or single, with longer work experienced or less trained teachers or untrained does not show any difference when the level of self- worth and belief is given into consideration. This concludes that the null hypothesis that states there is no significant difference level of science teachers' self-efficacy when they are grouped and compared according to age, civil status, years of service and number of hours training attended is therefore not rejected.

These findings have been echoed in more recent research shows no significant relationship between age, levels of self-efficacy (Hoy & Tschannen-Moran, 2007; Voris, 2011) and marital status (Tella 2003 and Pajares 2006). But not to Adio and Popoola (2010) result show there is a significant relationship between gender, age, marital status, number of years spent in the library and career commitment of librarians in federal university libraries in Nigeria.

Results in table 6 also denotes that computed p - value of 0.02 (sex) and 0.00 (educational attainment) that is deemed lower that the standard p - value of 0.05 alpha level of significance is considerably significant. It was hypothesized that the level of teachers' self- efficacy when taken as a whole and when grouped according to aforementioned variables would not be significant. Therefore, as to the findings of the current study that performed a statistical analysis, the null hypothesis is rejected.

Ferara (2013) conducted a study in United States and Bututcha (2013) in Ethiopia found that there is significant differences between male and female self- efficacy. Results in this regard, conform to the experiment conducted by Voris (2011) analyzed the role that teacher efficacy, job satisfaction, age, and other demographic variables play in the self-efficacy of early career special education teachers.

Differences in the Level of Teaching Proficiency of the Science Teachers

As shown in table 7, the data revealed that there is a significant difference in the computed p - value of age (0.02), sex (0.03), length of service (0.03), undergraduate preparation (0.01) and training (0.01) as it shows significantly lesser than the probability value of 0.05 alpha level of significance. This explains an observable difference in the p-value. Thus, hypothesis which states that there is no significant difference in the level of teaching proficiency of science teachers when they are grouped into planning and when compared according to aforementioned variables is therefore rejected.

Table 7 Comparative Statistics in the Level of Level of Teaching Proficiency in Planning and Development When Grouped according to Age, Sex, Civil Status, Educational Attainment, Length of Service and Number of Hours of Training Attended

Categories	Planning					Development				
		SD	*P*-value	Decision	Significance @ α = 0.05		SD	*P*-value	Decision	Significance @ α = 0.05
Age										
Younger	3.74	0.67	0.02	Reject H_o	Significant	4.06	0.70	0.38	Do Not Reject H_o	Not Significant
Older	4.00	0.69				4.10	0.67			
Sex										
Female	3.79	0.67	0.03	Reject H_o	Significant	4.09	0.70	0.33	Do Not Reject H_o	Not Significant
Male	4.08	0.73				4.03	0.65			
Civil Status										
Single	3.92	0.54	0.38	Do Not Reject H_o	Not Significant	4.21	0.61	0.00	Reject H_o	Significant
Married	3.83	0.74				4.03	0.71			
Length of Service										
Shorter	3.77	0.69	0.03	Reject H_o	Significant	4.07	0.70	0.52	Do Not Reject H_o	Not Significant
Longer	4.00	0.67				4.10	0.66			
Undergraduate Preparation										
Education	3.80	0.68	0.01	Reject H_o	Significant	4.06	0.69	0.13	Do Not Reject H_o	Not Significant
Non-Education	4.17	0.62				4.17	0.63			
Training										
Less	3.71	0.63	0.01	Reject H_o	Significant	4.04	0.69	0.19	Do Not Reject H_o	Not Significant
More	3.99	0.72				4.11	0.69			

However, data collected in the table 7 also reveals that among the indicators that shows significant difference in the teaching proficiency of science teachers, civil status does not show any disparity as shown in the a computed p-value of 0.38 that is greater than the probability value of 0.05 alpha level of significance. Hence, the hypothesis which states that there is no significant difference in the level of teaching proficiency of science teachers when they are grouped into planning and when compared individually to the civil status alone is therefore not rejected.

Results presented in this table indicate that difference in the obtained mean gain, obtained p - value of the level of teaching proficiency in planning is in favor of age, sex, length of service, undergraduate preparation and training attended of science teachers and less favorable to the marital status of the science teachers. Therefore, it is revealed that teachers' age, years of teaching experience, teacher gender, and the undergraduate education of a teacher play a significant role and that it greatly influence the teaching proficiency of teachers.

The findings concur with the results of the investigation conducted by Mison and Bernabe, (2004) that demographic profile such as age, sex, marital status, and tenure influence employee performance. To boot relationship between ages and work performance, aging declines work proficiency. With age, marital commitment and experience teachers come to a variety of possibilities that boost self- esteem and increases responsibility (Tim Khlai, 2006). Labadia (2010) also affirm demographic variables as age and length of service negatively correlates job satisfaction and job effectiveness but positively career satisfaction.

As to teaching proficiency that focus on the Development, the computed p-value of 0.38 (age), 0.33 (sex), 0.52 (length of service), 0.13 (undergraduate preparation) and 0.19 (training) is also shown in Table 7. This result means that the level of teaching proficiency particularly in development of younger and older, male or female, shorter or longer teaching experiences and education preparation of the respondents do not differ significantly when compared to the test value of 0.05 alpha level of significance. Moreover, the obtained mean scores in civil status had shown a computed p - value of 0.00 which is less than the 0.05 alpha level of significance. Thereby, null hypothesis that states that there is no significant difference in the level of teaching proficiency of science teachers when they are grouped into development and when compared according to aforementioned variables is therefore rejected. This applies when teachers are grouped according to civil status is observed.

Results presented in this regard reflect that science teachers teaching proficiency level in development does not differ significantly when grouped according to age, sex, length of service, undergraduate preparation and number of hours training attended but not in their civil status. This can be taken to mean that the response of the respondents shows no consistent evidence that supports demographic profile significant influence in teaching proficiency in terms of development. Although shows relevance in civil status. Findings of the study conducted by Rakumaku (2010) negates the current study, in view of profiling teachers in mathematics older, more experienced teachers are found in urban schools are better qualified - academically and professionally with comparatively limitless experience in teaching and viewed to be developed and carry out classroom responsibilities effectively.

Along with the claims towards teaching proficiency, teachers must execute and carry out the activities clearly demanded by the curriculum to achieve success in teaching learning process and produce highly competitive learners regardless of demographic differences (Usod and Kadtong 2013).

Table 8 Comparative Statistics in the Level of Level of Teaching Proficiency in Results and As a Whole and When Grouped according to Age, Sex, Civil Status, Educational Attainment, Length Of Service And Number Of Hours Of Training Attended

Categories	Results					As a Whole				
		SD	p-value	Decision	Significance @ α = 0.05		SD	p-value	Decision	Significance @ α = 0.05
Age										
Younger	3.95	0.62	0.04	Reject H_o	Significant	3.99	0.68	0.01	Reject H_o	Significant
Older	4.10	0.68				4.09	0.67			
Sex										
Female	4.01	0.65	0.81	Do Not Reject H_o	Not Significant	4.03	0.69	0.79	Do Not Reject H_o	Not Significant
Male	4.03	0.67				4.04	0.67			
Civil Status										
Single	4.02	0.54	0.85	Do Not Reject H_o	Not Significant	4.12	0.59	0.00	Reject H_o	Significant
Married	4.01	0.69				3.99	0.71			
Length of Service										
Shorter	3.95	0.64	0.03	Reject H_o	Significant	3.99	0.69	0.02	Reject H_o	Significant
Longer	4.12	0.65				4.09	0.66			
Undergraduate Preparation										
Education	4.00	0.65	0.36	Do Not Reject H_o	Not Significant	4.01	0.69	0.01	Reject H_o	Significant
Non-Education	4.10	0.61				4.15	0.63			
Training										
Less	3.92	0.60	0.01	Reject H_o	Significant	3.97	0.68	0.00	Reject H_o	Significant
More	4.11	0.68				4.09	0.78			

Relevant research results are found to be equivocal at best, implying that the relationship between varying demographics towards teachers teaching performance is quite complex. Corbett, Wilson and Williams (2005) concur to this finding that ethnicity, socioeconomic status, and gender contributes to the longstanding achievement gaps. Related findings made by Alufohai and Ibhafidon (2015) that teachers' age and teachers' marital status significantly influenced students' academic achievement in English language. This further discussed the facts that age comes into exhaustion that cause inefficiency after staying longer in the service, but can be contained when progressive intervention has spent.

Likewise, Arbuckle and Williams (2003) believe that male teachers asserting authority during teaching is a significant characteristic and is influencing. For Mwamwenda and Mwamwenda (2002), female teachers teach better in English Language, Mathematics, Science and Social studies in Botswana and

Zuzovsky (2003) in Israel. This is also confirmed by recent research conducted by Ali, et al (2013) that stresses age significantly influences academic performance of students.

Relationship of Science Teachers Scientific Literacy, Teaching Self- Efficacy and Teaching Proficiency

Table 9 Relationship of Science Teachers Scientific Literacy, Teaching Self-Efficacy and Teaching Proficiency

		Scientific Literacy	Self-Efficacy	Teaching Proficiency
Scientific Literacy	Sig. (2-tailed)		0.11	-0.21
	N	42	42	42
Self-Efficacy	Sig. (2-tailed)	0.11		0.50
	N	42	42	42
Teaching Proficiency	Sig. (2-tailed)	-0.21	0.50	
	N	42	42	42

The table shows that when science teachers levels of scientific literacy compared to the teachers' self-efficacy (p - value = 0.11) and teaching proficiency (p - value=-0.21) the data reveals no positive relation. Comparatively done with self-efficacy towards scientific literacy (p = 0.11) and teaching proficiency (p=0.50) that reveals the same. Moreover, when science teachers teaching proficiency is correlated to the level of scientific literacy (p = -0.21) and Teachers' self-efficacy (p =0.50) similar results were obtained.

Based on the explication of data, the table shows a negative relationship among science teachers' scientific literacy, teaching self-efficacy and teaching proficiency hence the obtained computed probability value (p - value) is observably lesser than the testing p- value of 0.05 alpha level of significance.

Result of the study tangentially negates with the researches that the self- efficacy of teachers is significantly positively related to classroom technology use by teachers This mean that teachers self-efficacy improves teachers' performance at school. A study conducted by Jinks and Morgan (1997) in Tschannen- Moran (2009) shows correlation between science performance and the overall scale of self-efficacy is also positive and significant. Correspondingly, Haney, Wang, Keil and Zoffel (2007) also suggests that teacher's participation in implementation of new instructional practices positively raises self-efficacy. Conclusively, Laaksonen (2009) directs science knowledge, science-related self-efficacy and self-concepts are highly significant to the success of the science learning and teaching and learning performance. Above all, teacher's attitude and beliefs about their ability to respond and meet the challenge of teaching task were shaped by the rich content-knowledge and innovation of teachers to improve instructional resources, provide specific resources for organizational expectations and classroom goals.

SUMMARY OF FINDINGS

The following are the findings of the study:

The level of scientific literacy of the science teachers when taken as a whole and when grouped according to the selected variables was basic except on non-education graduates which is high.

On the other hand, the level of science teachers' self- efficacy when taken as a whole and when grouped according to age, civil status, and training is high. However, when grouped according to sex, the level of teachers' self- efficacy of male science teacher self-efficacy was very high while those of the females were high. Likewise, when grouped according to length of service, the level of science teacher's self-efficacy with shorter length of service was high but very high for those with longer length of service. Furthermore, education graduate science teachers' level of self-efficacy was high while those with non-education graduates are very high.

Furthermore, findings indicate that the teaching proficiency of science teachers was highly proficient when taken as a whole and when grouped according to the selected variables. Likewise, the same results were observed when teaching proficiency in terms of planning, development, and result was considered.

Considering significant difference in the level of scientific literacy of the science teachers, results show that there is no significant difference in the level of the scientific literacy of the science teachers when grouped according to age, sex, civil status, length of service, undergraduate preparation, and training.

In terms of science teacher's teaching self-efficacy, results disclosed that there is no significant difference in the level of teaching self-efficacy of science teachers when grouped according to age, civil status, length of service, and training. However, significant differences were observed when science teachers were grouped according to sex, and undergraduate program. Furthermore, results also show that there is no significant difference in the level of science teachers teaching self-efficacy when grouped according to the selected variable except when they are grouped according to undergraduate program. Likewise, in terms of instructional strategies except when they are grouped according to age. However, in terms of classroom management, no significant difference was observed when science teachers were grouped according to the selected variables.

Furthermore, findings revealed that there is a significant difference in the level of the teaching proficiency of the science teachers when taken as a whole except when they are grouped according to sex. However, when dimension was considered individually, there is a significant difference in the level of science teachers teaching proficiency in terms of planning except when they are grouped according to civil status. However, in terms of development no significant differences were observed except when they are grouped according to civil status.

Lastly, result indicates that there is no significant correlation among science teachers' scientific literacy, self-efficacy, and teaching proficiency.

CONCLUSIONS

Based on the foregoing findings, it was deduced that science teachers were not able to develop scientific literacy as a whole and when grouped according to the selected variables. However, science teachers who are not education graduates have already developed their scientific literacy.

This study also concludes that science teachers do not differ significantly in the level of their scientific literacy when grouped according to age, sex, civil status, length of service, undergraduate preparation, and training. This means that the level of their scientific literacy is almost the same.

Furthermore, scientific teachers when taken as a whole and when grouped according to the selected variables were proficient enough in teaching the subjects. They already have mastery of the subject matter. They used appropriate teaching strategies and techniques in teaching the different areas of science and they know how to manage their classrooms. It is believed that he or she has

the ability to engage in a task and accomplish it.

Likewise, science teachers do not differ significantly in the level of teaching self-efficacy when grouped according to age, civil status, length of service, and training. The level of their teaching efficacy in this regard is almost the same. However, male and female science teachers differ significantly in the level of their self-efficacy.

Science teachers differ significantly in the level of their teaching proficiency when taken as a whole and when grouped according to the selected variables except when they are grouped according to sex. Males have better teaching proficiency than females.

Lastly, the study concludes that no relationship existed among science teachers' scientific literacy, self-efficacy, and teaching proficiency.

Based on the foregoing findings, it was deduced that science teachers were not able to develop scientific literacy as a whole and when grouped according to the selected variables. However, science teachers who are not education graduates have already developed their scientific literacy.

RECOMMENDATIONS

In the light of the foregoing findings and conclusions, the following are the courses of actions and recommendations submitted by the researcher:

The study recommends that administrators must review, initiate and plan programs in strengthening and deepening scientific and technological skills of the teachers

as mandated in the K-12 curriculum. Further, it is recommended to address the need to enhance and develop more Science teachers' content - knowledge to provide a well-deserved learning outcome as expected by the Department of Education.

Teachers are encouraged to assess their scientific skills, pedagogical knowledge in understanding critical science in order to divulge deeper in improving learning exercises and enrichment activities that developed the utmost scientific ability of the student. Likewise, enhance scientific skills through updating and attending seminars or post-graduate studies in line with the specialized fields to maximize learning. It was cited in various studies that teachers obtained lowest scientific literacy and does greatly influence academic performance of the students.

Teachers' age, civil status, education and training should also be considered as determinants in screening and hiring teacher applicants and as variable in teaching, as this contributes in the teaching techniques, strategies, methods and procedures.

Moreover, teachers are encouraged to participate, and engaged in specific activity like in-service program that includes motivational activities that focuses on the discussion of the character building, essence of professionalism to enhance not only the teaching skills but to create a positive environment that improves and develop pride among teachers.

It is also recommended to engage into peer-to-peer activity or feedback session in order to enrich performance efficiently and effectively and senior teachers (older, longer in service and specialized education and training) can be a potential material to become a peer consultant or human resource. It can be noted that teachers' efficacy and teaching proficiency influence the essence of one's belief to be successful.

Junior high school students are encouraged to equipped and develop critical and scientific thinking. It is believed that students' acquisition of scientific knowledge does not only improve basic learning but to be able to use the scientific skills advances them to be totally literate citizen.

Training institutions should ensure adequate relevant content-based training of teacher-

trainees that will increase the scientific skills and confidence level of science teachers as they taught deeper the nature of science. Moreover, factor like hands-on workshops may be looked into as they may be factors to predict high scientific literacy and positive teaching performance. Curriculum planners should revisit and review the curriculum guide to realign it to the teachers and learners guide that Science teachers and students are dependent on regularly basis in order to meet the expected outcomes.

Future researchers can conduct a similar study using variables other than sex, age, civil status, length of service, undergraduate education and training attended as well as conduct a similar study in other city schools' division to further confirm or deny the present study.

In the light of the foregoing findings and conclusions, the following are the courses of actions and recommendations submitted by the researcher:

The study recommends that administrators must review, initiate and plan programs in strengthening and deepening scientific and technological skills of the teachers as mandated in the K-12 curriculum. Further, it is recommended to address the need to enhance and develop more Science teachers' content - knowledge to provide a well-deserved learning outcome as expected by the Department of Education.

Teachers are encouraged to assess their scientific skills, pedagogical knowledge in understanding critical science in order to divulge deeper in improving learning exercises and enrichment activities that developed the utmost scientific ability of the student. Likewise, enhance scientific skills through updating and attending seminars or post-graduate studies in line with the specialized fields to maximize learning. It was cited in various studies that teachers obtained lowest scientific literacy and does greatly influence academic performance of the students.

Teachers' age, civil status, education and training should also be considered as determinants in screening and hiring teacher applicants and as variable in teaching, as this contributes in the teaching techniques, strategies, methods and procedures.

Moreover, teachers are encouraged to participate, and engaged in specific activity like in-service program that includes motivational activities that focuses on the discussion of the character building, essence of professionalism to enhance not only the teaching skills but to create a positive environment that improves and develop pride among teachers.

It is also recommended to engage into peer-to-peer activity or feedback session in order to enrich performance efficiently and effectively and senior teachers (older, longer in service and specialized education and training) can be a potential material to become a peer consultant or human resource. It can be noted that teachers' efficacy and teaching proficiency influence the essence of one's belief to be successful.

Junior high school students are encouraged to equipped and develop critical and scientific thinking. It is believed that students' acquisition of scientific knowledge does not only improve basic learning but to be able to use the scientific skills advances them to be totally literate citizen.

Training institutions should ensure adequate relevant content-based training of teacher-trainees that will increase the scientific skills and confidence level of science teachers as they taught deeper the nature of Science. Moreover, factor like hands-on workshops may be looked into as they may be factors to predict high scientific literacy and positive teaching performance.

Curriculum planners should revisit and review the curriculum guide to realign it to the teachers and learners guide that Science teachers and students are dependent on regularly basis in order to meet the expected outcomes.

Future researchers can conduct a similar study using variables other than sex, age, civil status, length of service, undergraduate education and training attended as well as conduct a similar study in other city schools' division to further confirm or deny the present study.

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JOURNAL OF EDUCATION, 2024
Vol.4 No.2 E-ISSN: 3082-330X
P-ISSN: 3082-2963

Relationship of Home Environment and the Academic Performance of Junior High School Students in Sitio Bay-Bay, Barangay Poblacion, Toledo City

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et al.

ABSTRACT

The home environment plays an important role in shaping students' academic performance and overall educational outcomes. This study used a correlational method using a quantitative approach to identify the relationship between the home environment and the academic performance of junior high school students in Sitio Bay-Bay, Barangay Poblacion, Toledo City. Parents or guardian's attention or care, parents or guardian's financial status, friendly home environment, home facilities, and motivational behavior of parents or guardians are factors in the home environment. The researchers identified the forty (40) secondary students using a convenience sampling method. Data collected through a four-likert scale adapted survey questionnaire and analyzed with the help of the Pearson Correlation Coefficient. Our research highlights a moderate positive relationship between the home environment and students' academic performance, emphasizing the role of parental involvement, financial stability, and a nurturing atmosphere. Recommendations are made for parents, students, teachers, and the community to create supportive learning environments and improve educational outcomes. Future researchers are encouraged to explore the long-term effects of the home environment and evaluate interventions designed to enhance home learning conditions.

Keywords: *Academic performance, home environment factors, correlational method, pearson correlation coefficient.*

INTRODUCTION

The concept of home extends beyond the physical structure to embody a multifaceted space of social, emotional, and cultural significance. It is often viewed as a place of security, comfort, and personal identity formation. According to Després (1991), home is associated with both a physical environment and an emotional state, where individuals create meanings tied to their personal experiences. This implies that home is not just a shelter, but a space where individuals establish bonds, routines, and personal values. Furthermore, Mallett (2004) notes that home serves as a fundamental point for human relationships and social interactions, being a center for family dynamics and social identity. In this sense, home acts as both a physical and psychological shelter, offering refuge and grounding for individuals.

Another perspective on home is presented by Moore (2000), who emphasizes the role of home in the development of one's self-identity and its relationship with well- being. Home environments are seen as influential spaces where people experience personal growth, comfort, and security. Similarly, Gifford (2007) highlights the psychological dimensions of home, where its meaning can range from a peaceful retreat to a place of personal empowerment. These studies reflect how the definition of home is not merely confined to physical attributes but also includes emotional, psychological, and social elements that contribute to one's sense of place and belonging.

In their study, Jain and Mohta (2019) concluded that if a student has a favorable home environment, they have a good academic performance in school, while if the child doesn't have a good home environment, their academic performance also becomes low. It means that the home environment and the students' academic performance have a significant relationship with each other. Balayan (2022) also found that students at the Philippine Science High School who had supportive home environments and active parental involvement achieved higher academically. Similarly, Mendez et al. (2023) demonstrated that pre-service science teachers in Mindanao with greater parental involvement performed better in their studies. Fernando (2023) further supported these findings by showing that students from homes with higher socioeconomic status and better educational support had superior academic outcomes.

This paper is a correlational study using a quantitative approach that focuses on the relationship between the home environment and the academic performance of the junior high school students in Sitio Bay-Bay, Barangay Poblacion, Toledo City. Through this study, we hope to provide valuable insights that can inform educational practices and support systems, fostering an environment where every student has the opportunity to thrive academically.

CONCEPTUAL FRAMEWORK

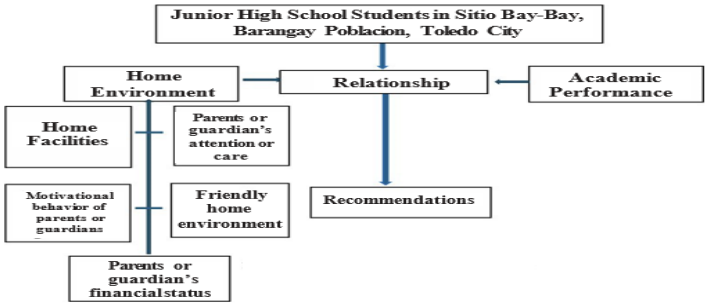

Figure 1. The Conceptual Framework of the Study

The conceptual framework for this study is shown in Figure 1, which illustrates how the variables used in this study—home environment and academic performance of the junior high school students in Sitio Bay-Bay, Barangay Poblacion, Toledo City—correlate with each other. Parents or guardian's attention or care, parents or guardian's financial status, friendly home environment, home facilities, and motivational behavior of parents or guardians are factors in the home environment. After the study, recommendations will be made.

STATEMENT OF THE PROBLEM

This study determines the relationship of home environment and the academic performance of junior high school students in Sitio Bay-Bay, Barangay Poblacion, Toledo City.

Specifically, it addresses the following key questions:

1. What is the demographic profile of respondents in terms of:

    1.1. Age;

    1.2. gender;

    1.3. grade level;

    1.4. parents or guardian's highest educational level; and

    1.5. parents or guardian's employment status?

2. What is the student's average of the first grading period of the A.Y. 2023-2024?

3. What is the student's home environment in terms of:

    3.1. parents or guardian's attention or care;

    3.2. parents or guardian's financial status;

    3.3. friendly home environment;

    3.4. home facilities; and

    3.5. motivational behavior of parents or guardians?

4. Is there any significant relationship between a student's home environment and academic performance of the students?

5. Based on the findings of the study, what recommendations can be proposed?

RESEARCH METHODOLOGY

Research Design

The researchers used a correlational method using a quantitative approach. Quantitative research is the process of collecting and analyzing numerical data. While correlational research is a type of non- experimental research in which the researcher measures two variables and assesses the statistical relationship, the researchers used these research designs to determine the relationship between a junior high school student's home environment and their academic performance.

Research Environment

The study was conducted in Sitio Bay- Bay, Barangay Poblacion, Toledo City, where students' education is impacted by their home environment. Sitio Bay-Bay is an adapted community of the University of the Visayas Toledo City Campus. It is situated between the Toledo City Public Market and the Toledo City Old Bus Terminal, where a new public market building is currently under construction.

Figure 2. Google (2023). [Google Maps, Sitio Bay-Bay, Poblacion, Toledo City]. Retrieved September 30, 2023, from https://www.google.com/maps

Research Participants

The researchers selected junior high school students as the respondents for this study. The survey included forty (40) junior high school students from Sitio Bay-Bay, Barangay Poblacion, Toledo City, who are currently enrolled in Luray II National High School and are bona fide residents of Sitio Bay- Bay.

Sampling Method

The researchers used convenience sampling method in selecting participants for the study, where subjects are selected because of their convenient accessibility and proximity to the researcher. The researchers used this type of method because of a lack of access to a full population list.

Instrument

In this study, the main instrument that the researchers used was a modified-adapted questionnaire from the study of Younas et al. (2020), "Effects of Home Environment on Students' Academic Achievement at Higher Levels." An adapted data gathering instrument refers to a research tool, survey, or questionnaire that has been modified or customized to suit a specific research study, context, or population. The researchers used this instrument to get specific, actionable answers to questions.

The research instruments included a section focused on the demographic profile of the respondents. Additionally, the research instrument featured a segment dedicated to assessing various home environmental factors. Respondents were asked to rate their agreement with statements related to their home environment using a Likert scale ranging from 1 to 4, where 1 indicated "strongly disagree" and 4 indicated "strongly agree." These Likert scale items were carefully designed to explore the impact of home environment factors on the student's academic performance, providing valuable insights into the correlation between these variables.

Data Analysis

In this study, the collected data was subjected to rigorous analysis to uncover the potential relationship between a student's home environment and academic performance. First, descriptive statistics were employed to summarize the demographic profile of the students. Mean scores, standard deviations, and percentages was calculated to describe the central tendency and variability within the data. Subsequently, Pearson's correlation coefficient was utilized to explore the strength and direction of relationships between a student's home environment and academic performance. This analysis helped in understanding the extent to which changes occur in another, providing valuable insights into the correlations between the two variables.

Data Gathering Procedures

In conducting the study, the following were specific methods and techniques used to collect data for research or analysis:

First, the researchers were asked permission from the college dean and the research

adviser to conduct a research study outside the school premises. Second, as soon as the letter of the request was approved, the researchers wrote the survey questionnaire. Third, when the research instrument was finalized, researchers go to barangay authorities to ask permission to conduct the study in their community, and once approval was granted, the researchers personally asked the participants to answer the given questions through direct interrogation. The purpose of communicating information to the participants was to establish mutual understanding between researchers and participants. Attempts were made to contact each junior high school students of Sitio Bay-Bay to solicit their willingness to participate in the survey and personally hand them the survey questionnaire to address their concerns upon understanding the questions. Information on the following matters will be communicated to the participant: how the research is monitored, contact details of the researchers and participants, and how privacy and confidentiality are protected.

Ethical Considerations

In accordance with RA 10173, or the Data Privacy Act of 2012, all personal and/ or sensitive information solicited and disclosed from the questionnaire was only used for the study alone. Rest assured that the data we gather remains confidential. The voluntary participation of the respondents in this research is important. Full consent from the participants was obtained prior to the study. Moreover, participants have the right to withdraw from the study at any stage if they wish to do so. The protection and privacy of the participants were ensured. Furthermore, any type of communication in relation to the research should be done with honesty and transparency. Lastly, any type of misleading information as well as the representation of primary data findings in a biased way will be avoided.

DATA AND PRESENTATION

This section presents the collected data and provides a comprehensive analysis of the results. Tables are utilized to enhance clarity and assist in interpreting the findings. Each data set is discussed in detail, offering insights into how it supports the hypotheses set forth in the study

Table 1: The Demographic Profile of the Respondents of the Study.

Age	Frequency	Percentage
12-14 years old	22	55
15-17 years old	18	45
Total	**40**	**100**
Gender	**Frequency**	**Percentage**
Female	24	60
Male	16	40
Total	**40**	**10**
Grade Level	**Frequency**	**Percentage**
Grade 7	7	17.5
Grade 8	8	20
Grade 9	13	32.5
Grade 10	12	30.00
Total	**40**	**100**
Students' Parent's or Guardian's Educational Level	**Frequency**	**Percentage**
Elementary Level	3	7.5
Elementary Graduate	11	27.5
High School Level	12	30
High School Graduate	14	35
Total	**40**	**100**

Table 1 showed the demographic profile of the students. Out of the forty (40) respondents surveyed, the majority (55%) of the respondents belong to the 12–14 age range. The 15–17-year olds come next, which comprises 45% of the total respondents. 60% are female and 40% are male. Most (32.5%) were in Grade 9. The 10th grade comes next, which comprises 30% of the respondents. 20% were in grade 8, and 17.5% were in grade 7. The table also shows that the majority of the students' parents or guardians are high school graduates, which makes up 35% of the population, 30% were high school students, and 27. 5% were elementary graduates, and 7.5% were at the elementary level.

Table 2: The Students' First Grading Period Grades

Student's Average	Frequency	Percentage
80-85	16	40
86-90	16	40
91-95	8	20
96-100	0	0
Total	**40**	**100**

Table 2 shows the frequency and percentage distribution of the respondents according to their first grading period grades. The data indicated that a significant portion of students (40%) have an average grade between 80-85, and another 40% fall within the 86-90 range, while only 20% achieve grades between 91-95, with no students reaching the 96-100 bracket. This distribution suggests that while a majority of students are performing at an average to above-average level, there is room for improvement to reach the highest academic achievements. This trend underscores the need for targeted interventions to support students in reaching their full academic potential, especially those who are on the cusp of higher performance but may lack the necessary resources or support. According to Jain and Mohta (2019), a favorable home environment significantly enhances a student's academic performance, implying that efforts to improve the home environment could positively impact students' grades and overall educational outcomes.

Table 3: The Home Environment of the students.

Table 3.1
Parents or Guardians' Attention or Care

Statement	Total	Frequency and Percentage (%)								Mean Score	SD
		SA	%	A	%	DA	%	SDA	%		
1. My parents show a positive attitude towards my studies.	40	15	37.5	18	45	4	10	3	7.5	3.125	0.882523
2. My parents show a positive attitude towards my studies.	40	9	22.5	22	55	6	15	3	7.5	2.925	0.828576
3. I feel satisfied when my parents discuss my academic career with me.	40	13	32.5	20	50	2	5	5	12.5	3.025	0.946993
Overall										**3.03**	**0.886031**

***Key: SA**= Strongly Agree, **A**= Agree, **DA**=Disagree, **SDA**= Strongly Disagree, **SD**= Standard Deviation*

Table 3.1 showed the parents or guardians' attention or care of the students. In statement 1 there are only 3 students who were strongly disagree that their parents show a positive attitude towards their studies and most of them agreed. In the second statement, 55% of the student agreed that their parents or guardians' assistance helps them in all dimensions of academic life and 50% of them agreed that they feel satisfied when their parents or guardians discuss their academic career with them. The findings highlighted the significant role that parents and guardians play in the academic lives of students. The general agreement among students about the positive attitude of their parents and the helpfulness of their assistance underscores the importance of parental involvement. These supportive actions not only contribute to academic success but also to the overall emotional and psychological well-being of the students. Encouraging more parents to actively engage in their children's education could further enhance these positive outcomes.

The significant role of parents and guardians in students' academic lives, as highlighted by the findings, suggests that increased parental involvement could lead to better academic outcomes and overall well-being for students. This underscores the necessity for educational policies and programs that encourage and facilitate parental engagement. Schools could benefit from implementing workshops and resources that help parents develop effective strategies to support their children's education. Additionally, community initiatives aimed at strengthening family bonds and creating supportive home environments could further enhance students' academic and emotional development. In their study, Fan and Williams examined the effects of parental involvement on students' academic self-efficacy, engagement, and intrinsic motivation. They found that active parental involvement positively influences these areas, which in turn enhances students' academic performance (Fan & Williams, 2015). Jeynes' meta-analysis of the impact of parental involvement on student academic success revealed that various forms of parental engagement, including high expectations and communication about school activities, are significantly associated with improved academic outcomes (Jeynes, 2016).

Table 3.2
Parents or Guardians' Financial Status

Statement	Total	Frequency and Percentage (%)								Mean Score	SD
		SA	%	A	%	DA	%	SDA	%		
1. My parent's good financial status helps me study elite school.	40	14	35	20	50	5	12.5	1	2.5	3.175	0.747217
2. My parents provide me pick and drop service.	40	7	17.5	15	37.5	12	30	6	15	2.575	0.957762
3. My parents buy me different literature-based books.	40	3	7.5	14	35	17	42.5	6	15	2.35	0.83359
4. My parents' financial status boost up my confidence level.	40	8	20	21	52.5	8	20	3	7.5	2.85	0.83359
Overall										**2.74**	**0.634642**

***Key: SA**= Strongly Agree, **A**= Agree, **DA**=Disagree, **SDA**= Strongly Disagree, **SD**= Standard Deviation*

Table 3.2 showed the students' parents or guardians' financial status. In this factor, 20 students agreed that their parents or guardian's financial status helps them to study in an elite school. 37.5 % got a pick and drop service while 42.5% disagreed that their parents or guardians buy them a literature-based books. Lastly most of the student agreed that their parents or guardians' financial status boost their confidence. The findings underscore the significant impact of parents' or guardians' financial status on students' educational experiences and personal confidence. Financial

stability enables access to elite education, transportation services, and indirectly influences students' self-confidence. However, the data also suggests that there may be gaps or differing priorities when it comes to providing literature-based books, indicating areas for further exploration and potential improvement in resource allocation.

Table 3.3
Friendly Home Environment

Statement	Total	Frequency and Percentage (%)								Mean Score	SD
		SA	%	A	%	DA	%	SDA	%		
1. I feel like that my family boosts my confidence.	40	15	37.5	21	52.5	3	7.5	1	2.5	3.25	0.707107
2. My brothers and sisters provide me a favourable environment to improve my studies.	40	5	12.5	25	62.5	8	20	2	5	2.85	0.699817
3. My parents advise me friendly on my mistakes.	40	10	35	23	42.5	5	10	2	5	3.025	0.76753
4. My parents encourage me in my learning.	40	14	35	17	42.5	4	10	5	12.5	3	0.987096
Overall										**3.03**	**0.790388**

***Key**: **SA**= Strongly Agree, **A**= Agree, **DA**=Disagree, **SDA**= Strongly Disagree, **SD**= Standard Deviation*

Table 3.3 showed the friendly home environment of the students. For the first statement, 37.5% of the respondents firmly agreed that they feel like their family boosts their confidence. For the second statement, 62.5% agreed that their brothers and sisters provide them a favourable environment to improve their studies. For the third statement, 35% of the respondents firmly agreed that their parents give them friendly advice about their mistakes. And for the last statement, 42.5% agreed that their parents encourage them in their learning. The findings suggest that the home environment for many students is marked by familial support that enhances their confidence, academic improvement, and learning experiences. While there is variability in the levels of support, the general trend indicates a positive and encouraging home atmosphere for many of the students. These supportive relationships at home likely contribute to the students' overall well-being and academic success. Fan and Williams (2015) found that parental involvement significantly boosts students' academic self-efficacy, engagement, and intrinsic motivation, leading to better academic outcomes. Similarly, Jeynes (2016) concluded that parental involvement is strongly correlated with improved academic performance and psychological well-being among students.

Table 3.4
Home Friendly

Statement	Total	Frequency and Percentage (%)								Mean Score	SD
		SA	%	A	%	DA	%	SDA	%		
1. I have separate room in my home for studies.	40	4	10	10	25	19	47.5	7	17.5	2.275	0.876693
2. I enjoy a proper hygienic meal on time.	40	8	20	23	57.5	6	15	3	7.5	2.9	0.810191
3. I am provided with all basic needs at my home.	40	6	15	25	62.5	6	15	3	7.5	2.85	0.769615
4. My parents provide me most of the recommended textbooks.	40	7	17.5	9	22.5	13	32.5	11	27.5	2.6	1.032796
Overall										**2.66**	**0.872324**

Key: ***SA****= Strongly Agree,* ***A****= Agree,* ***DA****=Disagree,* ***SDA****= Strongly Disagree,* ***SD****= Standard Deviation*

Table 3.4 shows the home facilities of the students. For the first statement, 47.5% disagreed that they have separate room for studies. For the second statement, 57.5% agreed that they enjoy a proper hygienic meal on time. For the third statement, 62.5% of the respondents agreed that they were provided with all their basic needs at home. And for the last statement, 32.5% disagreed that their parents provide me with most of the recommended textbooks. Majority of students have access to proper hygienic meals and are provided with their basic needs, there are areas of concern such as the lack of a separate room for studies and insufficient provision of recommended textbooks. Addressing these issues could enhance the academic environment and overall wellbeing of the students. Access to basic needs and proper nutrition has been shown to positively influence students' academic performance and general well-being (Glewwe & Muralidharan, 2016). However, inadequate study environments and lack of educational resources can hinder academic success (Brown & Lee, 2017). Ensuring that students have dedicated spaces for studying and access to necessary textbooks is crucial for their academic development and overall quality of life.

Table 3.5
Motivational Behaviour of Parent

Statement	Total	Frequency and Percentage (%)								Mean Score	SD
		SA	%	A	%	DA	%	SDA	%		
1. My parents' positive remarks stimulate my urge for academic achievement.	40	13	32.5	20	50	6	15	1	2.5	3.125	0.757442
2. My parents' reward uplifts my interest in academic achievement.	40	5	12.5	27	67.5	6	15	2	5	2.875	0.686406
3. My parents' physical involvement in my studies motivates me for more achievement.	40	7	17.5	27	67.5	3	7.5	3	7.5	2.95	0.749359
4. My parents check my homework daily.	40	5	12.5	18	45	10	25	7	17.5	2.525	0.933356
Overall										**2.87**	**0.781641**

Key: ***SA****= Strongly Agree,* ***A****= Agree,* ***DA****=Disagree,* ***SDA****= Strongly Disagree,* ***SD****= Standard Deviation*

Table 3.5 shows the motivational behaviour of parents toward students. For the first statement, 50% of the respondents agreed that their parents' positive remarks stimulate their urge for academic

achievement. For the second statement, 67.5% agreed that their parents' reward uplifts their interest in academic achievement. For the third statement, 67.5% of the respondents agreed that their parents' physical involvement in their studies motivates me for more achievement. And for the last statement, 45% of them agreed that their parents check their homework daily. It collectively highlights the significant role parents play in motivating their children toward academic achievement. Positive remarks, rewards, and physical involvement are shown to be particularly effective strategies, with more than half of the respondents recognizing their impact. Daily homework checks, while beneficial, appear to be less influential or less commonly practiced. These insights can guide parents in adopting a balanced approach that combines verbal encouragement, rewards, and active involvement to optimally support their children's educational endeavours.

Table 4: The Correlation between Home Environment and Academic Performance of the Students

Variables	df	p value	r	Result
• Students' home environment • Students' academic performance	38	<.00001	0.71	Significant at p<.05

A Pearson correlation analysis was conducted to examine the relationship between students' academic performance and their reported levels of home environment. The results revealed a significant positive correlation between the two variables, $r(38) = 0.71$, $p < 0.001$. This indicates a moderate positive relationship between students' home environment and their academic performance Educational interventions and policies that focus on family support systems, parental involvement, and the provision of necessary learning resources at home are likely to be effective in boosting student performance.

Research consistently shows that a positive home environment is linked to better academic outcomes. For example, parental involvement and a supportive home atmosphere are associated with higher academic achievement (Wilder, 2014). Moreover, the availability of educational resources at home, such as books and a quiet place to study, significantly contributes to students' academic success (Jeynes, 2016).

CONCLUSION

In conclusion, our research reveals a moderate positive relationship between student's home environment and academic performance. A conducive home setting, characterized by a parents or guardian's attention or care, parents or guardian's financial status, friendly home environment, home facilities, and motivational behaviour of parents or guardians, positively influences student's scholastic achievements. This findings underscore the importance of fostering a nurturing home environment to enhance educational outcomes and pave the way for future academic success.

RECOMMENDATIONS

To leverage this relationship and foster better educational outcomes, the following recommendations are proposed:

1. For parents, ensure that children have a quiet, well-lit place to study, free from distractions. Encourage your children's curiosity and love learning by being actively involved in your child's education, help children set achievable goals and celebrate their accomplishments. Lastly, provide them necessary school supplies and access to educational materials like books and technology.

2. For students, seek help when needed and keep open lines of communication with teachers and parents, be proactive in seeking out additional learning resources and opportunities.

3. For teachers, regularly update parents on their child's progress, invite them to participate in school activities and provide strategies to support learning at home. Be aware of diverse home environments and adapt teaching methods to accommodate different needs.

4. For the community, provide funding and resources to schools to help them support students from diverse environments. Encourage local businesses and organizations to offer workshops to enhance the parents' parenting skills and support their children's education. Create a support network for families, offering services like after school programs and mentoring.

To the future researchers, investigate the long- term impact of home environment on academic performance and research the effectiveness of various interventions aimed to improving the home learning environment.

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JOURNAL OF EDUCATION, 2024
Vol.4 No.2 E-ISSN: 3082-330X
P-ISSN: 3082-2963

Contextualization As A Strategy In Teaching Araling Panlipunan 10

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ABSTRACT

Contextualizing instruction leads to a continuous shift in education beyond the classroom, resulting in a harmonious arrangement within the educational system. Grade 10 students of S.Y. 2023-2024 at Zapatera National High School were the subject of this study, which intends to assess the efficiency of contextualized instruction. A pre-experimental single-group design was utilized in the study, which involves pre-testing and post-testing of a group of participants to assess the intervention's effectiveness. The study also incorporated cluster sampling to determine the participants for the investigation, which were Grade 10 students. The researchers adopted the questionnaire from Most Essential Learning Competencies of the Department of Education as an instrument. A test before and after intervention was administered to gauge students' prior knowledge, examines their progress, and compares their scores. The dependent T-test, Mean, and Standard Deviation were utilized to assess contextualized pedagogical approach. Data from the research study suggested that contextualization as a teaching strategy was an effective method to enhance the understanding and knowledge of the students of the subject matter. According to the study's result, contextualization benefits society and learners by raising critical-thinking abilities and performance capabilities. For efficient implementation, teachers should make connections between the information they are teaching and actual-world situations. The researchers recommended that schools should foster contextualized learning by partnering with local communities, providing teachers with seminars and training, and engaging lessons involving students' experiences and histories with regular assessment for effectiveness and adaptability.

Keywords: *Contextualization, Strategy, Teaching, Araling Panlipunan, Grade 10.*

RATIONALE

In the beginning of the educational journey, the framework of one's wisdom will be integrated with Social Studies' field, as it is one of the hearts of the school subject in the curriculum (Ross, 2020). The curriculum of Araling Panlipunan (Social Studies) in Grade 10 was issued in 2013, which was a redesigned edition of the Araling Panlipunan course material for the K-12 Program and complied with the passage of Republic Act No. 10533, also known as the Enhanced Basic Education Act of 2013 (Department of Education, 2022). This law covers a range of course subjects, including history and cultures of Asian countries, influential international events and movements, economics, and current global and national challenges that anticipate with the frame of the history of the Philippines. One of the persistent problem is that students believe Araling Panlipunan to be dull and dull and boring topic that focuses motly on memorizing historical dates and events (Dilag, 2020). Motivation is the key to educational achievement considering it is an effective inducer that accelerates understanding, shapes career and educational pathways, and encourages learning (Balante et al.,2023). Educators can greatly benefit from the contextualized teaching and learning approach when it comes to giving students an excellent education, as its main goal is improving the degree of mastery of the learners, where the subject matter transforms into useful and significant to the students when their personal experiences and observations are included in the instructions (Lorbis, 2019). This approach to teaching social studies is useful for helping students in becoming active members of their community rather than just observers.

Even with contextualization's positive aspects, Araling Panlipunan's current teaching approaches are still primarily traditional and emphasize memorization over critical thinking and problem-solving. This is evident by the National Achievement Test (NAT)in 2018 for Araling Panlipunan results where it suggested that students in Grade 10 Critical thinking and information literacy are two competencies that many students in Grade 10 have difficulty with (De La Fuete, 2022).

In light of this, the purpose of this study is to examine how Araling Panlipunan instruction can benefit from the contextualization technique in order to improve student learning outcomes. By making the subject matter more relevant to students' lives and experiences, the researchers believe that it is possible to improve both motivation and academic performance. Furthermore, contextualized learning can foster an impression of social responsibility and allow students to take on engaged roles in society and deal with current concerns. In support of continuing attempts to change social studies education in the Philippines, this study aims to provide insightful information about the utilization of contextualization as an instructional strategy.

STATEMENT OF PURPOSE

The main objective of the study is to ascertain the effectiveness of contextualization as a strategy in teaching Araling Panlipunan in Zapatera National High School's grade 10 class for the School Year 2023-2024.

Specifically, it sought to answer to the following sub-problems:

1. What are the Pre-test and Post-test scores of the students in Araling Panlipunanin relation to their learning competency in Human Rights and Gender Related Issues in Araling Panlipunan?

2. Is there a significant mean gain between Pre-test and Post-test scores of the grade 10 students?

3. Is there a significant difference between Pre-test and Post-test scores of the grade 10 students?

4. What recommendation could possibly be made in the light of the study's findings?

STATEMENT OF HYPOTHESES

H01: There is no significant mean gain between the Pre-test and Post-test scores of the students.

H02: There is no significant difference between the Pre-test and Post-test scores of the students.

METHODOLOGY

Research Design

The researchers employed a type of research called pre-experimental research design, focusing on a single group. Bin- Hady (2020) stated that this method entails administering a test to participants before and after the intervention to cause an alternation. It has been used to assess how successful the intervention was (Junian et al., 2018).

Research Environment

The study's primary location was Zapatera National High School, which was situated in Cebu City at 284 Sikatuna Street. The institution offers secondary education, which includes junior and senior high school, day and night classes as well as special education. They aimed to contribute to the holistic development of the nation and to improve the services to stakeholders of the institution in which they desire to foster and safeguard the right of the learners to set high standards of education, just, and culture-based basic education.

Research Participants

The primary participants were the grade ten students at Zapatera National High School. The researchers incorporated cluster sampling in selecting participants to cut down the total population in the investigation, as the initial set of participants appears to have a vast number to investigate in its entirety. They should be bona fide students and have more than 80% attendance.

Instrument

The researchers used two instruments, which are researcher-made and composed of a multiple choice with 30 items each for the test before and after the intervention. Researchers adopted the questionnaire from the Most Essential Learning Competencies (MELCS) from the Department of Education. It also underwent validity testing to analyze the test questionnaire's item dependability. The study relied on test paper to provide responses conveniently.

Data Gathering Procedure

Pre-Data Gathering Procedurers

Prior to beginning any research, the permission needs to be obtained from the following parties the dean program coordinator, principal, teacher, parents, and participants; they must also submit an application letter to the Institutional Review Board for ethics review; and following consent, a pilot test of the test questionnaire was conducted in order to identify problems and make any necessary adjustments before participants were given the pre-test questionnaire.

Actual Data Gathering Procedurers

The subject teacher at Zapatera National High School and the intern teachers worked together to conduct a study on the effectiveness of contextualization in teaching Araling Panlipunan by the researchers. Information regarding students' rights and their engagement was provided. To guarantee that the researchers received the knowledge needed to make wise conclusions, data was gathered both before and after the intervention.

Post Data Gathering Procedurers

Researchers verified participant information and looked for errors in the data they had obtained. For privacy, the data was totaled, calculated, and kept. The test papers were kept by the lead investigator for a period of three months. Data anonymization and participant identity removal were part of the data disposal process. Researchers reassured participants about privacy protection and provided them with information on data disposal. The names of the study participants were censored and then the data was disposed of.

ETHICAL CONSIDERATION

This study' section provide upholding the fundamental principles of ethical considerations that safeguarding the rights and welfare of participants and ensuring that the benefits of research are equitably distributed.

1. The researchers are open-minded to the diversity of the students which they are respected and treated fairly.

2. The participants in the study were not forced to take part because the reseachers obtained permission from both the particpants and their legal guardians to allow them to take part of the study and as data resource.

3. Researchers honored the time of the participants to answer the provided questionnaire through answering the test questionnaire before and after the intervention.

DATA ANALYSIS

The data were analyzed through satistical tools used in the study. The researchers identify the central value of the test scores using mean and Standard Deviation (SD). Mean Percentage Score (MPS), mean gain, and T-test were also used to evaluate the effectiveness of contextualization, describe the average improvement of students' performance, and to quantify the pre-test and post-test scores of the students, respectively.

RESULT AND DISCUSSION

As the participants answer the pre-test and post-test questionnaire, this section displays the outcome of the before and after intervention.

Table 3: Pre-test and Post-test Scores

Observation	Mean	MPS	SD	Proficiency Level
Pre-Test	8.27	26.7	3.84	Did Not Meet Expectation
Post-Test	27.94	90.0	2.39	Outstanding

Note: n = 98. Below 75%- Did not Meet Expectation; 75-79%- Fairly Satisfactory; 80-85%-Satisfactory; 86-89%- Very Satisfactory; 90-100%- Outstanding

(D.O. No. 8, s. 2015)

Students' performance in Araling Panlipunan 10 is displayed in Table 3 following the application of contextualized techniques. The post-test scores climbed to 27.94 from the pre-test score of 8.27, suggesting significant progress in performance. The intervention led to a decrease in standard deviation points, which in turn produced more consistent performance and enabled the move from "Did Not Meet Expectation" to "Outstanding" competency levels. There was a decrease in standard deviation from 3.84 to 2.39.

Assisting poor student performers, enhancing retention and academic efficiency, and offering individual guidance are all the objectives of intervention in education (Wong & Li, 2020). Sengkulu (2022) asserted that school, teacher, and student factors influence the performance of students in social studies. By influencing how students participate in class, teachers' strategies and methods have considerable effects on students' learning progress, which could either facilitate or interfere with their ability to retain and grasp the concept of the subject matter. In addition, teachers with the necessary qualifications, such as mastery of the subject and instruction quality, involving students through relevant activities, and presenting the curriculum effectively also play a crucial role in students' academic performance (Sengkulu, 2022).

Mean gain between Pre-test and Post-test Scores

Table 4: Mean gain between Pre-test and Post-test Scores

Observations	Mean	Mean Gain	SD	Proficiency Level	Decision	Interpretation
Pre-Test	8.27		3.84	Did Not Meet Expectation	Reject	
Post-Test	27.94	19.67	2.39	Outstanding	H01	Significant

Note: n = 98. Below 75%- Did not Meet Expectation; 75-79%- Fairly Satisfactory; 80-85%-Satisfactory;86-89%- Very Satisfactory; 90-100%- Outstanding (D.O. No. 8, s. 2015)

After the intervention, Grade 10 students' performance significantly improved, as evidenced by a mean gain of 19.67 points between the pre- and post-test scores, according to the analysis of test results. This significant progress shows that students not only gained knowledge that improved their academic performance but also more effectively grasped the subject matter. The results further reinforce the idea that contextualizing instruction can successfully close the knowledge gap between general concepts and their real-world applications.

Based on these findings, the researchers rejected the null hypothesis, not because of random variation but rather because of targeted instructional strategies. They discovered that the contextualized teaching strategy increased student performance significantly. This approach promotes increased engagement and retention, a deeper comprehension, and the application of knowledge in related situations. The effectiveness of this strategy emphasizes how crucial it is to put contextualized techniques into practice in order to successfully address a variety of learning needs.

According to Lorbis (2019), Araling Panlipunan's mastery of learning competencies is improved by a methodological instruction called Contextualized Teaching and Learning (CTL). In addition to enhancing academic achievement, CTL use in Araling Panlipunan fosters critical thinking and social awareness, enabling students to become informed and contributing members of society.

Flores (2021) asserted that contextualization is a useful strategy for holding students' attention by delivering material in a context that is both meaningful and pertinent. Contextualized Instructional Materials (CIMs) were to be developed using the best instructional resources as a basis for the study. Data were gathered and analyzed using quasi-statistics utilizing a self-made questionnaire with open-ended questions and a descriptive survey method.

Difference between the Pre-test and Post-test Scores

Table 5: Difference between the Pre-test and Post-test Scores

Observations	Mean	SD	t-value	p-value	Decision	Interpretation
Pre-Test	8.27	3.84			Reject	
			-43.60	0.00		Significant
Post-Test	27.94	2.39			H02	

Note: Significant if p-value < α 0.05

By contrasting test results from before and after the intervention, Table 5 illustrates the effectiveness of contextualization in Araling Panlipunan. The mean scores of the students were 8.27 prior to the intervention, but they rose to 27.94 following it, demonstrating a significant improvement in achieving the learning goals. Students performing better and having greater prior knowledge were those using the lecture-discussion method. According to post-test results, contextualization successfully made use of student's past knowledge, and pre-test scores rose as a result of the lecture- discussion approach and validated questions. The results of the study show that contextualization is an effective pedagogical strategy for raising student performance, rejecting the null hypothesis because the p-value is much lower than 0.05, the accepted cut-off value.

Alam (2019), in his study, shows that the deficiencies, which include the use of different tests in each approach and an emphasis merely on the short-term impacts, indicate the need for additional research to determine the assessment designs' long-term implications on knowledge retention and application. Being the initial one to evaluate two methods for testing in a separate field, which is the test before and after discussion, produced a novel understanding. It was further emphasized in his study the significance of selecting appropriate assessment techniques for determining the efficacy of instruction. Furthermore, the pre-test results showed that subject matter can be attained and learnable, especially when the teacher correlates the course topic to present-day events, giving the students a reason to be active in the exchanging of ideas in class. In order for the students to take

an active role, they suggest that educational institutions urge educators to include and relate the nation's present issues and problems in their methodological teaching.

Using contextualization as a teaching strategy with an organized set of educational activities motivates students to corporate their knowledge of important ideas toward scenarios that represent real-world circumstances and increases the likelihood that learners would find the subject matter significant, valuable, and applicable to their daily lives (Fernandes et al., 2013).

CONCLUSION

The application of the contextualized instructional approach in Araling Panlipunan 10 was featured along with the investigation of the research study. The principal researchers concluded that employing contextualization as a teaching strategy improved student performance in the study as well as enhanced their critical-thinking skills. In addition, it develops, which would help them face and address challenges that would benefit not just themselves but society as a whole. The role of the teacher in attaining this is to make connections between what they are studying and real-world situations to effectively apply their knowledge.

RECOMMENDATION

The following recommendations were put forward by the researchers following the study's outcomes and implications.

1. Schools should encourage collaboration with local community members and groups to improve learning through contextualization.

2. Seminars and training are essential for the development of professional growth and progress; hence, it is recommended that teachers undergo and experience the aforementioned essentials for the development. This would make them gain skills needed for contextualized teaching strategy and more knowledgeable about its concepts and methodologies, which also helps them to have the necessary qualifications for teaching the subject matter.

3. Araling Panlipunan teachers should discuss current events and examples from the local communities to highlight social challenges, cultural customs, and historical occurrences. This aids learners in realizing the importance of what they are studying.

4. To improve understanding and engagement, Araling Panlipunan teachers should create lessons that are intimately related to the experiences and histories of their learners. Students are more likely to find the information relevant and fascinating when it incorporates personal connections and familiar surroundings, which increases their determination to study. This method connects new material to what students already know and have experienced, helping them appreciate and understand difficult ideas.

5. Students must be receptive to discovering different viewpoints and experiences both inside and outside of the community. Examining different points of view is a common component of contextualization, which can help you gain a deeper understanding of historical events and social concerns.

6. Contextualization techniques must be regularly assessed to ensure their application and efficacy in the classroom. Teachers can pinpoint areas for growth and strengths by routinely evaluating how these tactics affect student knowledge, engagement, and learning outcomes. By allowing teachers to modify their methods in response to student comments and observations made in the classroom, this continuous assessment guarantees that contextualization will always be a fresh and successful teaching technique.

7. Lastly, here are few recommendations for future field research study underlying concepts and approaches of employing contextualization as a teaching strategy in teaching secondary education Araling Panlipunan:

A.Investigating the effects of contextualizing teachings in Araling Panlipunan on student participation and engagement as well as how it helps students enhance their analytical and critical thinking abilities.

B. Examining how Araling Panlipunan students feel about contextualized learning, how it affects their interest in the subject, and how they perceive it.

C. Evaluating how well the technology works to provide Araling Panlipunan lessons and how it might improve contextualized teaching practices.

D. Investigating how contextualized teaching methods affect students' application of Araling Panlipunan concepts

and retention of knowledge over the long term.

E. Identifying best practices and cutting-edge methods for contextualized teaching through case studies and action research conducted in various schools.

F. Collaborating on research projects with other educators, educational institutions, or schools to exchange ideas and create solid contextualized.

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JOURNAL OF EDUCATION, 2024
Vol.4 No.2 E-ISSN: 3082-330X
P-ISSN: 3082-2963

Exploring The Lived Experiences of Single Parents in Fulfilling Their Academic Dreams

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ABSTRACT

This research study aims to explore the lived experiences of single parents who are also students in fulfilling their academic dreams. The researcher's utilized the phenomenological method, which seeks to describe and delve into the essence of the lived experiences of single parents in dealing with their children and academic endeavors. Seven single-parent informants in the College of Education were selected using purposeful sampling techniques. In this study, each informant was interviewed and they provided their perceptions of their experiences as a single parent and student at the same time. These informants described their experiences through the lenses of motivation, challenges, and needs. The themes of this study included the recognition of single parent's time management, their educational aspirations, dealing with their emotional stress, and how they overcame barriers. The results reveal that single parents deal with the dual demands of parenting and academic responsibilities. Furthermore, informants show exceptional perseverance and resolve, emphasizing the necessity for support from the government and educational institutions.

Keywords: *single parent, lived experiences, phenomenological, purposeful sampling, time management, educational aspirations, emotional stress, overcome barriers & education institutions*

RATIONALE

Single parents, defined as those raising children without the support of a spouse or partner, are becoming more common in today's culture. Divorce, separation, desertion, or personal choice can all lead to their current condition. Regardless of the reason, single parents face several problems in balancing parenting responsibilities with personal and professional goals, particularly in the field of education. According to Duquaine-Watson (2017), college single parents frequently lack appropriate support customized to their specific circumstances, distinguishing them from other student demographics. This study seeks to evaluate the support structures that help single parents navigate their difficult lives. Despite the difficulties they face, obtaining a college degree can provide significant benefits for single parents, such as increased earning potential, better job possibilities, and improved health outcomes (Kruvelis et al., 2017). As more single parents pursue higher education, it is critical to understand the unique obstacles they face and how institutions may best support them. According to Gasman et al. (2015), ensuring equitable access to higher education requires recognizing and appreciating each student's different experiences and assets, especially for underrepresented groups such as single-parent students. Furthermore, Austin (2013) emphasizes that low-income single parents may fail to satisfy the academic criteria required to be welfare eligible, demonstrating the convergence of educational and socioeconomic issues.

This study aims to fill gaps in the literature by focusing on single-parent students' lived experiences, notably the challenges they face in balancing academic, personal, and familial duties. The findings can help academic institutions design more equitable assistance services for this under-represented group.

Finally, boosting support for single-parent students is critical not only to their academic achievement but also to their long-term ability to sustain their families (Gasman et al., 2015).

STATEMENT OF THE PROBLEM

This study aims to explore the single parents' experiences in fulfilling their academic dreams at University of the Visayas College of Education, 2nd semester of School Year 2023- 2024.

Specifically, it seeks to answer the following questions:

1. What are the experiences of single parents who are studying in the university?

2. What are the challenges faced by single parents and how did they cope with those challenges?

3. What is the essence of their experiences?

4. What recommendations can be made based on the results of the study?

METHODOLOGY

Research Design

The researchers used the phenomenological method for the study's design. A phenomenological method focusses on the basic features of a lived experience or phenomena that can be perceived or felt by people from various viewpoints (Flood, 2010). This study used a phenomenological research approach to explore their experiences and understand their ideas and perceptions while navigating the challenges of being a single parent. According to McMillan and Schumacher (2010), the phenomenological method seeks to bring insight into human experiences.

Research Environment

The research was conducted in the University of Visayas' Mandaue, Toledo, Minglanilla, and Dalaguete campuses. The study took place at the College of Education. The researchers chose this university as the research environment because it aligns with the school's aims, particularly those stated in its vision, purpose, and goals. The researchers

did the study at the University of the Visayas, specifically the College of Education, since the researchers saw current occurrences difficulties at the university that prompted them to investigate this study.

Research Participants

The informants for this qualitative study were 7 students from the College of Education who are single parents currently enrolled at the University of the Visayas, 2nd semester of School Year of 2023- 2024. The informants included both female and male single parents. The study also included both regular and irregularly enrolled students.

Data Gathering

Preliminary Procedures

Researchers obtained authorization to conduct an interview on single parents' academic experiences, obtaining approval from the Dean of the College of Education. The IRB processed the Notice to Proceed, and a consent document was drafted. The interview involved introductory, content, and concluding questions, with no time constraints.

Actual Data Gathering

Researchers conducted a study at the University of the Visayas to understand the experiences of single parents in fulfilling their academic dreams. They interviewed students using paper, pen, and voice recorder, asking ten questions without time constraints. The study was conducted online and face-to-face, with purposive sampling used to select individuals or groups meeting specific criteria relevant to the research objective.

Research Instrument

The researchers used a semi-structured interview format to conduct their study, allowing for rich dialogue and open-ended questions. They recorded the informants' comments using pen and paper and a voice recorder for accuracy. The interview questions were Introductory, Content, and Concluding, focusing on the informants' experiences, difficulties, and struggles. The data was collected, discussed, and transcribed to obtain the results. The interview questions aligned with the study's goals and allowed for a rich understanding of the informants' experiences.

DATA ANALYSIS

The researchers employed Content Analysis, specifically Colaizzi's Method, to analyze the data in a seven-step systematic approach. This method is especially useful for assessing written or recorded information, and it is frequently used to analyze interview responses. Colaizzi's (1978) technique is well- known for offering a complete analysis that is directly related to the data at each level, leading in a clear and full knowledge of the phenomenon under investigation. The is mostly based on personal experiences obtained through interviews or written materials such as diaries, blogs, and narratives.

ETHICAL CONSIDERATION

The ethical considerations in this study are guided by the core principles of respect, beneficence, justice, and transparency, as outlined in the Belmont Report.

1. The researchers protected the informants' dignity and privacy by ensuring voluntary involvement and fair treatment. Informants were fully aware of the study's goal and had the option to withdraw at any moment.

2. All informants were treated equally, ensuring that there were no bias or unfair practices during data collection or analysis. Purposive sampling was utilized in the study to ensure that only relevant participants were

included: single parents enrolled at the University of the Visayas.

3. Informants were informed about the study's objectives, data gathering processes, and rights. Consent was secured from participants and necessary authorities before to conducting the research, ensuring clear communication throughout.

ETHICAL CONSIDERATION

This section presents the interview results based on the objectives and participant responses to the questions.

Theme 1: Time Management

Time management is critical when learning new things, and maybe expertise applicable to each viewpoint of your life. Planning and managing your time will help you in the future with school, work, and other projects.

Prioritization

Prioritization is how you give hierarchy to tasks based on their importance and how early you need to complete them. When you go through the prioritization process, your energy, time, attention, and focus are also prioritized from top to bottom to the task at hand.

"If you are in a relationship just like what I went through before, I was in a relationship that does not support me pursuing my college degree, the reason of our separation. Technically, but what I did because my end goal is to earn a degree for my child's future." Informant 3

Flexibility and Adaptability

Flexibility means that one is always open to new possibilities, viewing situations from different angles, and taking action that takes account of the needs of all involved rather than just children or parents (Vaghasia, 2022). Adaptability enables us to navigate through challenges without becoming overwhelmed.

"I am now a freshman, I do have time to focus on adapting to college life and when I get home, I need to tend the needs of my kids and feed them on time." Informant 5

Single parents effectively manage their time, balancing school responsibilities and personal life. Despite challenges, effective time management remains crucial for productivity and a sense of balance in their lives.

Theme 2: Educational Aspirations

The pursuit of educational goals is a strong motivator for single parents. Setting concise, realistic goals allows individuals to focus their time and resources more efficiently, increasing their chances of success. This technique is consistent with past research, which shows that clearly stated objectives are critical for academic accomplishment and personal improvement (Seay, 2014).

Balancing Education and Parenting

Balancing study and motherhood take significant effort and attention. Informants stated that maintaining a disciplined routine is crucial to good time management. Many parents used certain days for academic activities while saving weekends for their children's needs, demonstrating their dedication to both tasks.

"It's harder for single parents because we don't have anyone to help us our obligations in concerning our children. We have to comply also at school so it's very hard." Informant 5

Some of the single parents' informants balance their education and parenting by utilizing their time wisely. They set time to do their academic endeavors and they also set time to tend the needs of their child. It is a big impact that a single parents know their priority, so in that way they can balance well their education and parenting responsibility.

"Gi balance jud naku pag ayo like Monday to Thursday diba ang klase niya dili man sad fully loaded after ana sa akong klase is mga kids akong atimanon. (I will really balance it well, like from Monday to Thursday, I need to go to school and I am not is not fully loaded, so after my class, I will take care of the kids.)" Informant 1

Theme 3: Emotional Stress

Emotional stress is the experience of negative emotions, such as worry, in the setting of a physiological stress response, which includes circulatory and hormonal alterations. Emotional stress occurs when an individual believes he or she lacks sufficient personal resources to properly handle situational expectations (Lazarus, 1996).

Relationship Struggles

Relationship problems occur when two individuals who are together no longer have a connection or understand each other. The single parents' informants are also dealing with their own relationships. Some single parents come from toxic relationships that they are trying to forget; as they move forward in life, they are teaching their children the importance of understanding and choosing the appropriate person to be with.

"Actually, gikalimtan na jud nako akong past dili nako ganahan kay lisod jud akong nakaraan. Actually, nag part ko sa abusive relationship or toxic sa una so for the future mother or single mother no dapat mo choose proper man or choose man wisely nu. Mao na jud na atong kapuyon lisod jud basta abusive atong laki kay kita ra jud maglisod promise. "(Actually, I have completely forgotten my past because I don't want to remember it anymore because my past was really difficult. Actually, I was part of an abusive or toxic relationship before, so for future mothers or single mothers, you should choose the right man or choose wisely.) Informant 7

Single parents are carefully considering their personal relationships to avoid affecting their child. They emphasize the importance of being a good example, overcoming struggles, and doing what's best for their child's future, demonstrating bravery and responsibility.

"So, basically akong siyang gi pili over the relationship because I think when you stand on your own btaw, syempre single parent ka naa kay anak nga gi nurture so you have to show your child that you can stand alone. You know, do things you want to do basta para lang sa imohang future, so I want to show her that bisan pag siguro the bad side of it, ma ruin ang relationship but I can show her that even if her alone kaya ra. (So, basically, I chose my studies over the relationship because I think when you stand on your own, of course, as a single parent with a child to nurture, you have to show your child that you can stand alone. You know, do things you want to do, as long as it's for your future. So, I want to show her that even if the relationship may be ruined on the bad side of it, I can show her that she can still manage on her own.)" Informant 3

Lack of Support

Single parents struggle to support their children's needs and work, often without parental support. This leads to emotional stress as they balance academic pursuits and childcare, causing emotional distress for their informants.

"Wala, ako rajud siya gi manage like gi briefing lang jud nako akong kaugalingon nga makaya rajud ni nako though there are sometimes dili najud siya makaya kay labi na mga finances, like kanang wala ga support ang father sakong anak dayon ako ray ga trabaho." (None, I just mange it and brief myself that I can handle it my own. Although there are times when I can't handle it, especially with the finances (without the support of father) so I also work and sometimes my family (sister and mother) help me. I just motivated myself that I need to achieve my dreams and goals for my child.) Informant 2

Most of the single-parents experience having an emotional stress because they don't have a partner where they can lean on, especially when they are having a hard time. In this study, the researchers found out that emotional stress is one of the factors that the

single-parents are battling in fulfilling their academics dreams.

Theme 2: Educational Aspirations

Overcoming barriers involves recognizing and addressing obstacles that hinder progress or achievement, demonstrating a positive attitude and a positive approach to both academic and personal aspects, thereby fostering personal growth.

Coping Mechanism

Single parents face balancing responsibilities, utilizing coping mechanisms to reduce unpleasant emotions. They divide their time between school and child care, with some prioritizing their child's needs. They also use their child as an inspiration and remind themselves to be positive, as negative thoughts hinder personal growth.

"What I did was basically a time management and focus on my energy and on my goal since I can stress and also can think about negative things but I will always think of things that I want to achieve instead of lurking around the negatives ones because it won't help me grow." Informants 3

Positive Parenting

Positive parenting involves a continuous relationship between a parent and their child, involving care, education, leadership, communication, and meeting their needs consistently and unconditionally. Single parents often inspire their children, despite challenges, by being hands-on and enjoying life.

"I want to share as a student and also as a parent kay dira ka maka experience ug sobra ka kapoy, kasakit ug hilak kadaghan. Dira sad nimo ma enjoy ang life as a human. Taga adlaw ka naay kusog tungod sa imong anak." (I want to share as a student and also as a parent because there you can experience extreme fatigue, pain, and tears. There you can also enjoy life as a human. You become strong every day because of your child.) Informant 6

Single parents confront a wide range of obstacles, including time management, emotional stress, and a lack of support. Despite the challenges they faced, single parents shown great resilience by prioritizing their children's futures, making precise goals, and being adaptable in handling their obligations. They believe that positive parenting methods will teach their children the value of perseverance and hard work. This demonstrates single parents' courage and commitment as they seek to provide a better future for themselves and their family.

CONCLUSION

The study's outcomes suggest that students who are also single parents exhibit extraordinary tenacity when confronted with challenges. They navigate an array of obstacles, exercise immense patience, and exert considerable effort and bravery to reach their educational objectives. These students encounter numerous difficulties, including juggling academic duties with childcare and dealing with financial constraints to fulfill their children's requirements. They undertake notable sacrifices in their educational endeavors, often managing the rigorous demands of school and childrearing with scant assistance. Their dedication is apparent in their approach to organizing time, budgeting resources, and maintaining emotional health, all while endeavoring to create a consistent and supportive home for their offspring. Such individuals show exceptional perseverance and resolve, emphasizing the necessity for enhanced support from society and educational institutions to assist them on their concurrent paths of education and parenthood.

RECOMMENDATION

The researchers would like to recommend the following:

1. Understanding the effects of being a single parent might become useful. To help single parents learn how to plan for their child, the

parenting association in the community can host a seminar on family planning that includes more discussions and solutions.

2. Numerous schools and institutions provide grants intended exclusively for single parents. These scholarships can assist with the cost of books, tuition, and other educational expenditures. The Expanded Solo Parent Welfare Act grants full scholarships for this program to those single parents.

3. Community Colleges and Universities: A number of academic establishments provide courses or other initiatives specifically tailored to assist lone parents. These initiatives might offer child care services, flexible class schedules, and academic guidance specifically designed with single parents in mind.

4. For further study, the researchers will recommend these studies for future researchers:

a. A comprehensive study of Single Parents' Journey through Academic Achievement

b. Investigating the Academic Pursuits of Single Parents in Higher Education

c. Empowering Parenthood: Academic Resilience Among Single Parents

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JOURNAL OF EDUCATION, 2024
Vol.4 No.2 E-ISSN: 3082-330X
P-ISSN: 3082-2963

Students Crossing River to Get Education: Lived Experiences

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ABSTRACT

Students cross rivers in order to get education is not a common situation. With this, the study seeks to describe the lived experiences of students who cross rivers in order to get education and the benefits of living in this area. Phenomenological research design was employed in this study. The participants were interviewed using a semi-structure interview guide. Once the data were collected, the answers were analyzed into themes and were verified by the participants in order to have reliability. The results have shown that participants have experienced positive and negative things in living across, near or far a river. They have significantly stated the benefits of living in it as well as the challenges they have faced in going to school. They have also specified their coping means of overcoming these challenges. By this, the study suggests on teachers implementing CSDPA or Communicating Students in Danger Prone Areas. Moreover, the study also suggests on the assistance, monitoring and strict monitoring on the preservation of water in the river.

Keywords: *Education, lived experiences, students crossing river, river*

INTRODUCTION

Education is a valuable gift students need making them cross boundaries to achieve it. Parents send their children to school despite the challenges they would face for they believed that education is the only gift they could give to them. They also believed that education is the key to alleviate and solve poverty (United Nations, 2020). Schools may have provided safety to students but when they travel towards home, dangers could occur (National Institute of Justice, 2016). With this, natural calamity could occur which makes students susceptible to danger.

Rivers are important for they provide habitat to freshwater organisms leading them to diversify and propagate (Mendoza- Carranza, M., et. al, 2020). Rivers have also protected animals and plants together with the other freshwater bodies (Davies, et. al., 2007). Rivers are also used for transportation, livelihood and source of freshwater to humans. There are many benefits of living near the river however there could be danger such as the health impact when the water is polluted with heavy metals, fecal coliform and bacteria. There are also occurrences of flash floods and rapid currents making them dangerous to live beside, near, or even cross it especially during typhoons and thunderstorms.

Moreover, students have varying challenges they have met in order to have education. Some students struggle with education due to their low financial status or income and their skin color (Gray, 2013). Some struggle for their lack of food and poor health conditions (Bruening, 2017). In the Philippines, there are also cases in which students are verbally abused and who coped up through silence (Esteban, 2006). This is a sad reality however students make an effort to study hard despite the challenges may it be due to financial, cultural or due to natural calamity.

Along with these ideas, this study seeks to ask on what is the lived experiences of students who cross rivers in order to get education and the benefits of living in this area. More over the main goal of this study is to provide awareness on the students' struggles in order for the teachers to understand their students better and the government to create policies and projects that would help these students with their struggles. Through this study, students will also be aware of the importance of freshwater bodies and their role in the balance of ecosystems. This could help students and the community to be awake and to be part of conservation efforts regarding freshwater and marine ecosystems.

STATEMENT OF THE PROBLEM

This study asked on what is the lived experiences of students who cross rivers in order to get education. Specifically, it seeks to answer the following questions:

1. What are the challenges faced and solutions done by the students in crossing rivers to go to school?

2. What sanitary or health issues the students encountered

3. What are the advantages of living near a freshwater ecosystem?

4. What recommendations can be made?

METHODS AND MATERIALS

Research Design

This study will use qualitative research design specifically a phenomenological approach. Phenomenological approach focuses on the similarities of the lived experiences in a specific group or class in order to generate a description of the phenomenon's nature (Creswell, 2013). Furthermore, this study will also use scientific inquiry that aims in coming up with a holistic view in understanding a socio-cultural phenomenon (Astalin, 2013).

Research Environment

This study will be done in Binaliw, Cebu City, Cebu, Philippines.

Research Respondents

Five students are purposely chosen and are research participants in this study. These participants must live across or beside a river.

Research Instrument

This study seeks to describe the lived experiences of students who cross rivers in order to go to school. With this, a semi-structured interview guide will be the main instrument in gathering and collecting data. Paper, ball pen, and voice recorder will also be used during the interview.

DATA GATHERING PROCEDURE

A. Preliminary Procedure. A transmittal letter and assent forms are provided to the participants before conducting the study. They will be explained on the research objectives of the study and their role in it.

B. Actual Data Gathering Procedure. The respondents will be interviewed with the semi-structured interview guide during their free and available time in the span of two weeks. The researchers will take notes and record participants' responses with paper and a voice recorder The data will be collected, gathered, consolidated, formulated into themes, analyzed and interpreted. Once the data is analyzed and interpreted it will be verified by the participants for the reliability of the data.

DATA ANALYSIS

Thematic analysis will be used in analyzing and interpreting participants' responses. This is used in order to deliver a comprehensive and structured organization and analysis of data as it generates significant findings through coding and formulation of themes produced in this study.

ETHICAL CONSIDERATION

The following ethical guidelines will be considered by putting into place these following considerations:

1. The dignity and wellbeing of research respondents will be protected all throughout the conduct of the study.

2. The research data will remain confidential throughout the study and the researcher would obtain the permission of the research respondents to use the data and present it as a whole.

RESULT AND DISCUSSION

Students have several challenges and experiences in going to school which made them do efforts in order to cope up with it. This study seeks to describe the lived experiences of the students who cross rivers in order to go to school. They have been interviewed and the following themes were found.

Crossing river means crossing flood

Most of the participants have stated that there are several times that they have experienced floods making it as one of the main challenges in going to school. These can be found on the statements below:

"Usahay mag uwan inig buntag unya magbaha unya padung ko eskerlahan." Sav
(This usually occurs in the morning when I go to school the rain falls then right after that flood follows)

"Magbaha, walay taytayan inig padung nako eskwelahan". Cha

(Flood, there is no bridge in going to school)

"Inig adto nako eskwelahan usahay magbaha, way taytayan". Che

(When I go to school sometimes flood occurs, there is no bridge)

"Magbaha, way kasakyan iniig adto nako eskwelahan." Ash

(Flood, there is no vehicle or motorcycle that could bring us to school)

These statements signify that students are daily challenged due to the lack of bridge, flooding and transportation problem. This is supported in the study of Rashid (2000) specifying that women and children were considered to be the most vulnerable people during floods. His study also shown that these instances devastated their lives leading to illustrate their struggles and coping mechanisms done. (Rashid, 2000). This study recommends that students should consider their safety before crossing the river.

With the challenges faced, students have also done ways in order to avoid crossing river or cope up with it. These are found on the following statements below. This shows that students find means in order to be at school despite the challenges they have faced. This means could be in a form of humor. This agrees with the study of Cheung and Yue (2012) specifying that affiliative humor way of students are one of the most important means of adjusting and accomplishing resilience in any kinds of stress. This suggests that students should continue to develop a strong and smart mind as well as resilient body in facing challenges like crossing the river.

"Mobalik sa agi unya mag ilis. Kung magbaha adto mi agi lain dalan nga mas layo." Sav

(If I slip, I go back to my house and change clothes. If flood occurs, I usually go to the other path which is farther)

"Huwaton motuang ang baha." Ash

(I will wait until the flood stops.)

"Ako nalang ang mo adjust. Akong pagsikapan. Kung magbaha ako na lang mangita ug other way pero mao lagi gihapon lapok." Cha

(I would be the one who will adjust. I will try my best. When flood occurs, I will be the one to look for another way however it is still muddy.)

"Nay pisi sa mag-atbang nga kahoy kung molabang, nay lain nga agianan adto macv."

Che

(There is a rope which is connected on an opposite tree which we use in crossing the river. There is also another way going to macv)

In addition, students have also memorable experiences in crossing river. These are shown on the statements below. It can be inferred that most of these experiences made them sad since they have something they have left. This possibly occurred due to geographical

challenges they had experienced making it more difficult if they have something left, slipped or washed away. These are most likely to be remembered due to the possible negative situations the students might have experienced. This aligns with the study of Campbell (2004) that social situations that are negative are most likely to be remembered than the negative physical memories or experiences.

"Mabasa sa ulan, pero magdala ko ug ilisan. Unya way masakyan taas kaau ug lakawan kay layo kaau". Che

(When I get wet due to the rain but I usually bring extra clothes. Sometimes there is no vehicle or motorcycle who will bring me to school so I had to walk which is quite far.)

"Naanod akong sapatos.Usa na lang ka pair ang sapatos. Naguol." Sav

(The worst experience I had was when my shoe got carried by the flood leaving me with only one shoe. This made me sad.)

"Nana ta ko sa eskwelahan unya nahabilin ang research. Unya nibalik na lang ko sa amoa para kaabot sa time sa research. Dako kaau ug effect nako ug sa ako members kay ako nya rason ngano gamay sila ug grado."

Cha

(I was actually school then I remembered my research was left. So I had to go back to get it

so I will be back on time for research. There is a big effect to me and my members because I might be the reason that they won't have a grade.)

"Kanang padung eskwelahan unya mag uwan unya mabasa, kapoy kaau ug ilis. Unya ako way ilisan. Okay ra mi mabasa."

Ash

(When I go to school then I got wet due to it. I feel tired changing clothes and I also don't have clothes to change. It is okay for me to get wet.)

No known sanitary and health concerns

Students were asked if they have experienced any health and sanitary issues and the following statements below showed their responses. These statements show that most of the students have not experienced any health issues but also stated that there are sanitary concerns like the urine of rat and feces of pig. This signifies that the water status at present is somewhat good however if sanitary concerns are not addressed this might lead to the downgrading of the water quality. This is supported in the study of Othman et. al (2012) highlighting on the improvements done on the policies with rigorous monitoring on possible waste discharges leading to pollution overtime. This study suggests that citizens living beside, near or across a river should implement rules that would protect their sanitary concerns.

"Wala. Pero usahay nay ihi sa ilaga. Naa sad tae sa baboy". Sav

(None. But there is urine of the rat. There are also feces of the pig.)

"Walay health issues. So limpyo ra ang river." Cha

(I don't have health issues. So the river is clean)

"Oh kasuway kalibanga tungod sa palabi kaon unya sagol2 pero dli tungod sa tubig sapa. Kasuway kagidkagid." Che

(I have experience LBM but it is due to the many foods that I have eaten which are mixed but it is not due to the water in the river. I have also experienced skin rash.)

"Wala ra." Ash

(None)

The Rich Source of Water

Students were asked on the benefits they have enjoyed in living near the river and responded the following statements. These statements shows that living near, beside or across a river gives you the privilege of the abundance of water, the beautiful scenery and the recreational activities that could be done with it. This signifies that living near, beside or across a river offers great benefits. This is shown in the study of Othman et. al (2012) highlighting on the important role of river as the source for ecosystem and human survival as well as health. USDA (2008) also added that water is the place where we can play and the nourishment for living. This suggest that people living near, beside or across the river should preserve the river and its ecosystem.

"Source of water, nindot sad imong environment dli dali makuanan." Cha

(The source of water, there is a nice environment then I don't easily get sick)

"Daghan tubig, malingaw magduwa sa sapa (duwaduwa sa tubig)". Sav

(There are many water and I enjoyed playing in the river. I usually played with the water in it.)

"Duol sa tubig, duol liguanan, duol labhanan." Ash

(The water is near, the water for taking a bath is near, the water for laundry is also near.)

"Nindot view, nindot langoyanan." Che

(There is a nice view, nice for swimming)

PARTICIPANTS RECOMMENDATION

Students were also asked on the possible means the school and the government could help and stated that the school can help in providing the students significant amount of time and understanding especially during the rainy days and the government could possibly

provide bridge or a transport system that will ease of burden and stress in going to school.

With this the teachers could establish Communicating with Students in Danger Prone Areas or CSDPA. This program was established due to the concerns and suggestions of the students in this study. This program aims to help students living in geographically challenged location during natural hazard or calamity through communicating with the students before they have left their houses. This program should be employed especially during rainy days where the location of the students is geographically challenged. The program follows through different phases such as initiation, deliberation, activation and supplementation. This will be done through the coordination of the faculties and school heads.

CSDPA (Communicating with Students in Danger Prone Areas)

Objective	To help students living in geographically challenged location during natural hazard or calamity through communicating with the students before they have left their houses.
Persons' in charge	School Principal, Teachers, Advisers, DRRM coordinator
Initiation	The adviser will get the address of the students and the students should specify whether their place is prone to floods and landslides. The students should provide their parent or guardian contact information.
Deliberation	During the wet season, the DRRM coordinator (Disaster Risk Reduction and Management Coordinator) should assess the possible hazards that the students might be facing in going to school, Once the DRRM Coordinator thinks the students are in danger he/she should communicate with the school principal or school heads in order to ask permission for suspension or allowing students in danger prone areas to be given a considerable amount of time for them to be at school.
Activation	Once the principal or school head has given, his/her decision, the DRRM coordinator will disseminate the information to the advisers and the advisers will start on communicating the students.
Supplementation	If the students are given a considerable amount of time for them to be in school, then they are still considered present and will just ask supplementary activities for the missed lessons. In case, the class should be suspended then the students will be given activities that will be done at home

CONCLUSION

This study seeks to describe the lived experiences of students who cross rivers in order to get education and the benefits of living in this area. The students have expressed the good things they have enjoyed in living across the river as well as the challenges and experiences they have gone through in order to be at school. With this, the overall lived experiences of the students are a mixture of positive and negative as they lived across the river.

RECOMMENDATION

Based on the results and the conclusion of the study, this study recommends on the preservation of water quality as well as the monitoring of waste dumped to the river. This study also suggests on the use of CSDPA or Communicating with Student in Danger Prone Areas in order for the teachers to understand their students better leading to students learn better.

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Teaching Strategies in the Virtual Classroom: Maximizing Impact in the New Normal

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ABSTRACT

The COVID-19 pandemic has caused unprecedented changes in the field of education, leading to a rapid transition to virtual classrooms. With this, the researchers were prompted to determine the correlation between the extent of implementation of teaching strategies and the perception of their effectiveness in the virtual classroom. A quantitative correlational research design was employed, involving 62 randomly selected Grade 11 students, all taught by Grade 11 teachers. Moreover, the data collected was analyzed using the mean, standard deviation, and Pearson's correlation coefficient. The findings revealed that there is a significant strong positive relationship between the extent of implementation of the teaching strategies (i.e. small group discussions, individual or group projects, interactive online simulations, & problem-solving activities) in the virtual classroom and its perceived impact on the performance of the students. This indicates that more comprehensive and well-implemented teaching strategies in virtual settings can enhance students' learning experiences and outcomes, emphasizing the importance of effective instructional design in online education.

Keywords: *COVID-19 Pandemic, Online Education, Perceived Effectiveness, Teaching Strategies, Virtual Classroom*

INTRODUCTION

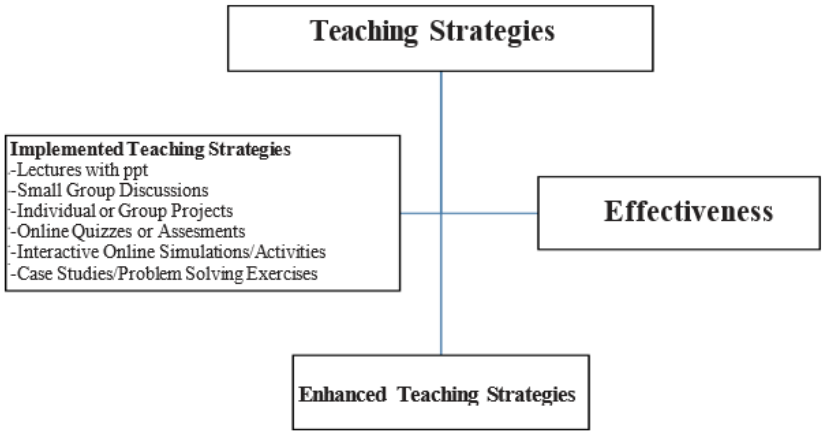
The COVID-19 pandemic has caused unprecedented changes in the field of education, leading to a rapid transition to virtual classrooms. In response to this shift, teachers have had to adapt their instructional delivery and rely on technology to implement a standards-based curriculum (Lamb, 2021). As educators continue to navigate this new mode of instruction, understanding the impact of teaching strategies in the virtual classroom becomes crucial. This concept paper aimed to emphasize the importance of studying teaching strategies in the virtual classroom by drawing upon the perspectives of other authors, identifying research gaps, and proposing a quantitative approach to address these gaps. Furthermore, the study explores the influence of external factors such as technological barriers and home environment on student performance in the virtual classroom. This comprehensive analysis provides a deeper understanding of the factors that influence student satisfaction in this context.

The findings of this quantitative analysis were presented through statistical tables using Pearson correlation. These results will be carefully analyzed and interpreted to identify key trends, patterns, and significant relationships between teaching strategies and student performance in the virtual classroom.

Overall, this study aimed to bridge the research gaps by providing valuable insights into effective teaching strategies in the virtual classroom. These insights will contribute to evidence- based recommendations and guidelines for educators, institutions, and policymakers, ultimately enhancing the quality of education in the new normal.

CONCEPTUAL FRAMEWORK

In this conceptual framework, the study explores the relationship between the implemented online teaching strategies and their perceived effectiveness, aiming to enhance teaching methods. The independent variable is the set of teaching strategies employed by Grade 11 teachers in the virtual classroom, such as interactive methods, multimedia use, and differentiated instruction. The dependent variable, perceived effectiveness, is measured through student feedback on engagement, learning outcomes, and satisfaction.



By analyzing the correlation between these variables, the study seeks to identify which strategies lead to positive student perceptions and better learning outcomes. Moderating variables, such as student learning styles and teacher proficiency with digital tools, are also considered as they can influence the effectiveness of these strategies.

The findings from this correlation will serve as a feedback loop, guiding the refinement of teaching practices to improve student engagement and knowledge retention. Ultimately, the goal is to use data-driven insights to enhance online teaching strategies and boost the overall quality of virtual education.

RELATED LITERATURE AND STUDIES

The integration of effective teaching strategies in the virtual classroom is essential for promoting optimal learning outcomes. However, there is a need for comprehensive exploration in this area to ensure successful educational experiences for students. As highlighted by Pokhrel and Chhetri (2021), several studies have examined the impact of the COVID-19 pandemic on teaching and learning across different educational levels. Despite these efforts, there is still a lack of in-depth exploration regarding suitable pedagogies and platforms specifically tailored for higher secondary, middle, and primary education in the virtual classroom.

Zekaj's study (2023) further supports the significance of investigating teaching strategies in the virtual classroom. Their research demonstrates that online learning strategies can have both positive and negative effects on student performance. While some students experience improvements in grades, others face challenges such as burnout and stress. Factors such as resource availability and environmental disruptions can also impact student outcomes. These findings highlight the need to understand the complex dynamics associated with teaching strategies in the virtual classroom.

The study conducted by Pokhrel and Chhetri (2021) highlights the need for further exploration of suitable pedagogies and platforms for different levels of education, including higher secondary, middle, and primary education, in the context of the COVID-19 pandemic. While various studies have been conducted, including those in developing countries, the investigation of effective teaching strategies in the virtual classroom remains limited.

Esteban Jr. and Cruz M. J. (2021) highlight the need for further exploration and research on effective pedagogy for online teaching and learning. They also identify the creation of tools for authentic assessments and timely feedback as an area for study. Additionally, the challenge of affordability and accessibility for learners from different economic backgrounds is addressed, emphasizing the importance of customization by educational tool developers.

Previous studies have emphasized the need for a comprehensive exploration of effective teaching strategies specific to the virtual classroom environment. While various studies have been conducted on this topic, a quantitative approach can provide valuable insights into the measurable impact of these strategies on student outcomes.

Moreover, Lisciandrello (2020) emphasizes the importance of educators perceiving themselves as leaders rather than mere managers to facilitate effective teaching and learning. This perspective underlines the need to explore the role of teachers as leaders in the virtual classroom setting. By examining the leadership aspects of teaching, this study seeks to enhance understanding of how teachers can create engaging and supportive virtual learning environments.

METHODOLOGY

Design

This study utilized a quantitative correlational research design. Bhandari (2021) as cited by Diano and Calbi (2024) emphasized that correlational research design primarily explores the relationship between variables without the researcher exerting control or manipulation over any of them. In the study, the correlation between the extent of

implementation of the teaching strategies and the perception of its effectiveness in the virtual classroom.

Setting

The survey was distributed to a representative sample of students, specifically to the University of the Visayas-Dalaguete Campus. It is a version of the Public Private Partnership and was established in the year 2007. During the start of the implementation of the new educational curriculum through the K-12 program, UV Dalaguete opened the basic education department on the campus. The Senior High School program in UV Dalaguete commenced in June of 2016, opening two major tracks- academics and technical vocational and livelihood.

Participants

The participants in this study were 62 Grade 11 students taught by Grade 11 teachers. Random sampling techniques were employed to ensure diverse representation of students in terms of age, grade level, and gender.

Instrument

The study used standardized Likert scale survey questionnaires. There was one survey questionnaire composed of two (2) parts administered for this study. The first part was the observed teaching strategies used by the teachers in the Virtual classroom. The respondents will rate using the numerical scale with the descriptive equivalent as follows: 1 – Never; 2 – Seldom; 3 – Occasionally; 4 – Frequently; and 5 – Always. Additionally, the second part was the effectiveness of the teaching strategies in the virtual classroom. The respondents will rate using the numerical scale with the descriptive equivalent as follows: 1 – Not effective; 2 – Somewhat effective; 3 – Moderately effective; 4 – Quite effective; 5 - Extremely effective.

Data Analysis

The collected data was analyzed using the mean, standard deviation, and Pearson's correlation analysis. The mean and standard deviation were utilized to determine the extent of implementation of the teaching strategies and the perception of its effectiveness in the virtual classroom. Furthermore, the Pearson correlation analysis was used to identify the relationships between the extent of implementation of the different teaching strategies and its perceived effectiveness.

RESULT AND DISCUSSION

This section presents the results and discussion of the data gathered on the teaching strategies in the virtual classroom and the impact of their effectiveness on the student's performance in the virtual classroom.

Table 1: Implementation of Teaching Strategies in the Virtual Classroom

Strategies	Mean	SD	Verbal Description
Lectures with slides or ppt	3.58	1.11	Frequent
Small group discussions	3.55	0.92	Frequent
Individual or group projects	3.74	0.92	Frequent
Online quizzes or assessments	4.02	0.82	Frequent
Interactive online simulations or activities	3.35	0.93	Occasional
Case studies or problem-solving exercises	3.42	0.86	Frequent

Note. N = 62. 1.00-1.80 – Never; 1.81-2.60 – Seldom; 2.61-3.40 – Occasional; 3.41-4.20 – Frequent; 4.21-5.00 – Always.

Table 1 presents the implementation of various teaching strategies in the virtual classroom as reported by the teacher-participants. The data shows that several strategies, such as lectures with slides or PowerPoint presentations, small group discussions, individual or group projects, online quizzes or assessments, and case studies or problem-solving exercises were frequently used. These teaching approaches fall within the "Frequent" category based on the scale used indicating their regular application in virtual learning environments.

However, the use of interactive online simulations or activities was reported as "Occasional," suggesting that this more immersive and engaging form of instruction is used less often compared to traditional methods like quizzes and lectures. This could be due to various factors such as technological limitations, time constraints, or a lack of familiarity with digital tools on the part of the instructors.

The findings imply that while teachers are employing a diverse range of strategies to support student learning in online settings, there is room to further incorporate more interactive methods, such as simulations, which can enhance engagement and deepen understanding. The frequent use of quizzes and problem-solving exercises suggests a strong focus on assessment and critical thinking, but the occasional use of interactive activities indicates a need for more dynamic and participatory learning experiences.

By understanding the correlation between these implemented strategies and their perceived effectiveness, educators can refine their approaches to maximize student outcomes. Enhancing the use of underutilized methods, like interactive simulations, may further improve the virtual learning experience, helping to engage students more fully and adapt to their diverse learning needs.

Table 2: Perception on Its Effectiveness

Strategies	Mean	SD	Verbal Description
Lectures with slides or presentations	3.61	0.98	Quite Effective
Small group discussions	3.69	0.92	Quite Effective
Individual or group projects	3.65	0.91	Quite Effective
Online quizzes or assessments	3.61	0.93	Quite Effective
Interactive online simulations or activities	3.60	0.98	Quite Effective
Case studies or problem-solving exercises	3.71	0.84	Quite Effective

Note. N = 62. 1.00-1.80 – Not Effective; 1.81-2.60 – Somewhat Effective; 2.61-3.40 – Moderately Effective; 3.41-4.20 – Quite Effective; 4.21-5.00 – Extremely Effective.

Specifically, case studies or problem-solving exercises received the highest effectiveness rating, suggesting that this strategy, which fosters critical thinking and real-world application of knowledge, is particularly valued by teachers for enhancing student learning. Similarly, small group discussions and individual or group projects were also rated highly, emphasizing the importance of collaborative and project-based learning in virtual settings. These approaches likely encourage active participation, teamwork, and the application of concepts in a more practical and engaging manner.

Other strategies, such as lectures with slides or presentations and online quizzes or assessments were also considered quite effective, though slightly lower than the more interactive methods. This suggests that while traditional forms of instruction and assessment are still valuable, they may not be as impactful as strategies that promote deeper student involvement.

Interestingly, interactive online simulations or activities despite being implemented only occasionally were perceived to be just as effective as more frequently used methods. This highlights the potential of interactive digital tools to significantly enhance learning when utilized, even if their application remains less common. Given their effectiveness, increasing the use of such engaging and immersive methods could further improve student outcomes.

Overall, the results imply that teachers believe a range of teaching strategies have a positive impact on student satisfaction in virtual classrooms. However, the study suggests that fostering more interactive and collaborative methods, like simulations and group discussions, could further enhance the learning experience. The consistent perception of effectiveness across strategies points to the need for a balanced approach that combines traditional and innovative techniques to meet diverse student needs and optimize learning in online environments.

Table 3: Correlation of the Extent of Implementation of the Teaching Strategies and Its Effectiveness on Students' Performance

Variables		r-value	p-value	Interpretation
Independent	Dependent			
Lectures with slides or presentations	Perception on Its Effectiveness	.765**	0.000	Significant
Small group discussions		.603**	0.000	Significant
Individual or group projects		.620**	0.000	Significant
Online quizzes or assessments		.577**	0.000	Significant
Interactive online simulations or activities		.616**	0.000	Significant
Case studies or problem-solving exercises		.691**	0.000	Significant

Note. Significant if $p<\alpha$, 0.05

Table 3 presents the correlation between the extent of implementation of the teaching strategies and its perceived effectiveness in improving students' performance. The results revealed that there is a significant strong positive relationship between the extent of implementation of the teaching strategies (i.e. small group discussions, individual or group projects, interactive online simulations, & problem-solving activities) in the virtual classroom and its perceived impact on the performance of the students ($0.60<r<0.79$, $p=.000$, $n=62$). In addition, a moderate positive relationship is observed between the implementation of online assessments and its perceived effectiveness in improving students' performance ($0.40<r<0.59$, $p=.000$, $n=62$). This implies that the implementation of the teaching strategies is related to their perceived impact on the performance of the students.

CONCLUSION

In conclusion, the researchers believe that although there were challenges following the pandemic, the teaching strategies used by the Grade 11 teachers effectively addressed the needs of the students. These strategies contributed to the perceived effectiveness of the teaching methods in the virtual classroom.

While the situation was challenging, it is important to highlight that lecture with slides and presentations significantly improved student academic performance in the virtual classroom. This suggests that the effectiveness of these strategies should be further applied and enhanced to continue improving student outcomes. Meanwhile, other strategies observed in the study also contributed to a moderate increase in student performance. This implies that teachers should focus on delivering lessons in ways that ensure meaningful learning experiences, helping students develop into lifelong learners.

Lastly, ever since the pandemic, the struggle of educators to ensure the quality and efficient delivery of lectures has increased. However, despite the said struggle, the education community has been innovating and sticking to its core, which is to ensure quality and relevant education to its students

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STUDENTS TECHNOLOGICAL PROFICIENCY SKILLS AND ACADEMIC PERFORMANCE EXPOSED TO BLENDED LEARNING

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ABSTRACT

This study aimed to investigate the technological proficiency, professional development, and use of emerging technologies among first-year BSED English major students at UV-Pardo Campus during the academic year 2023-2024. This study used a descriptive correlation research design, utilizing a modified questionnaire to collect data. The results of the study were based on three important aspects: the students' technological proficiency skills, their academic performance, and the correlation between technological proficiency and academic performance. As a result, the analysis revealed that "there is no significant relationship between students' technological proficiency skills and their academic performance." Although students demonstrated advanced technological skills and scored well in their academic achievements, evidently the relationship between the two aspects was found to be insignificant. These results suggest that technological skills alone do not typically influence students' academic achievements. Educators who combine technology proficiency within the traditional academic plans come up with a comprehensive educational approach that can better equip learners for future challenges and conquer them through the things they learn.

***Keywords**: technological proficiency skills, academic performance, blended learning*

INTRODUCTION

In recent years, the landscape of education has undergone a remarkable transformation, with the emergence of innovative teaching models like blended learning, which combine in-person and online instruction. This educational paradigm shift has been further accelerated by the global adoption of technology and digital tools, like computers, laptops, smartphones, etc. In this new educational ecosystem, students' technological proficiency skills have become an integral component of their learning experience, potentially shaping their academic performance outcomes.

According to Zeqiri et al. (2020), blended learning enhances student-teacher interaction and enhances both student performance and satisfaction with the blended learning process. The improvement in students' performance is not always correlated with students' satisfaction with blended learning. Additionally, blended learning makes it easier for teachers and students to manage their courses.

Experiencing blended classroom set- up and as part of our observation as a group of students conducting a study, blended is referred to as a hybrid classroom, a learning environment that includes a mix of students who are present in the physical classroom and participants joining the class virtually. The blended class model combines the face- to-face element of in-person teaching with the flexibility of location that online courses provide. As the researchers observed, most of the schools usually use software platforms such as zoom or Microsoft teams, which enable us students to attend lectures or seminars remotely, regardless of their physical location. The researchers have this so-called synchronous or asynchronous class setting. The synchronous online class encompasses a class virtually or face-to-face week with the instructor and other students in our observation, while on the other hand, asynchronous refers to where we can access complete lectures, readings, homework, and other learning materials at any time. There are many universities and schools that are conducting a blended learning model; some colleges offer hybrid classes as a way for students living abroad or provinces to attend lectures or seminars without having to be physically present.

Students' technological proficiency and their academic performance in the context of blended learning have garnered significant attention. Blended learning, combining traditional face-to-face instruction with online components, presents a unique environment where students must navigate both digital tools and traditional pedagogical methods. Understanding how students' technological proficiency influences their academic achievement in such environments is crucial for educators and policymakers aiming to optimize instructional strategies and support student success in the digital age. Understanding the relationship between students' technological proficiency and academic performance is of paramount importance for designing effective teaching strategies, fostering digital literacy, and ensuring equitable educational experiences. By delving into this correlation, the researcher hopes to contribute valuable insights that can inform educational practices, curriculum development, and the ongoing enhancement of blended learning models. Furthermore, this research may also inform the allocation of resources and support mechanisms to empower students with the necessary skills to thrive in technologically mediated learning environments.

Observation regarding the technological proficiency skills of students uncovers a unique scene molded by the digital era. Students of today, who are frequently referred to as "digital natives," exhibit a remarkable level of familiarity with technology because they have been immersed in digital platforms and devices since childhood. Their adaptability to new technologies is critical, and numerous features are a natural capability in exploring different computerized apparatuses. Their familiarity with digital environments has been further enhanced by the incorporation of technology into education, such as the utilization of educational apps and online resources.

However, it is essential to keep in mind that students' proficiency levels vary. While some exhibit progressive abilities in coding, programming, and using complex programming, others might have more

essential information. A notable trend that demonstrates the recognition of the significance of technological literacy in the modern world is the emphasis placed on teaching coding and programming skills in the educational system. A combination of personal experiences, educational initiatives, and the rapidly changing digital landscape all influence students' overall technological proficiency.

The teaching and learning environment are embracing several innovations, and some of these involve the use of technology through blended learning. This innovative pedagogical approach has been embraced rapidly, though it goes through a process. The introduction of blended learning (a combination of face- to-face and online teaching and learning) initiatives is part of these innovations, but its uptake, especially in the developing world, faces challenges for it to be an effective innovation in teaching and learning. Blended learning effectiveness has quite a few underlying factors that pose challenges. One big challenge is about how users can successfully use the technology and ensuring participants' commitment given the individual learner characteristics and encounters with technology (Hofmann, 2014). Hofmann adds that users are getting into difficulties with technology may result in abandoning the learning and eventual failure of technological applications. In a report by Oxford Group (2013), some learners (16%) had negative attitudes toward blended learning, while 26% were concerned that learners would not complete study in blended learning. Learners are important partners in any learning process, and therefore, their backgrounds and characteristics affect their ability to effectively carry on with learning and being in blended learning, the design tools to be used may impinge on the effectiveness of their learning.

Blended learning offers students several advantages, such as flexibility in pacing, access to a variety of resources, enhanced engagement through multimedia, and the opportunity to develop digital skills. It often enhances engagement through a combination of traditional and digital teaching methods. Facilitate the integration of technology into education, preparing learners for the digital age. Blended learning combines traditional face-to-face instruction with online educational tools to enhance the learning experience.

The researcher's aim for this research is to investigate the potential relationship between students' technological proficiency skills and their academic performance in a blended learning environment. This research aims to shed light on whether students who possess higher technological proficiency skills tend to excel academically in a setting where technology plays a central role. Additionally, this analysis will help educators, administrators, and policymakers better understand the implications of technological competency for student outcomes in the context of blended learning.

STATEMENT OF PURPOSE

This study aimed to investigate the relationship between technological proficiency skills and academic performance of the 1st year BSED English learners exposed to Blended learning modality in the University of the Visayas in the 1st semester academic year 2023-2024.

Specifically, this sought to answer the following questions:

1. What is the level of technological proficiency of the students?

2. What is the level of academic performance of the students?

3. Is there a significant relationship between the level of technological skills and the academic performance of students?

4. Based on the findings, what action plan can be proposed?

STATEMENT OF NULL HYPOTHESIS

Ho1: There is no significant relationship between students' technological proficiency skills and their academic performance in a blended learning environment.

METHODOLOGY

This section introduced the research methodologies and approaches employed in the investigation, encompassing aspects such as the study's structure, setting individuals involved, tools utilized, data collection methods, statistical analysis techniques, and ethical consideration.

Research Design

The research employed a quantitative research approach, specifically utilizing a descriptive correlation research design. The descriptive research design aimed to gather data to address the study inquiries and investigate the factors contributing to specific phenomena. It would be selected for this study as it would allow the researchers to depict the degree of technological proficiency skills and academic performance among students. The correlation method examines the relationship between students' technological proficiency skills and academic performance that is exposed to blended learning.

Research Environment

This research was conducted at the University of the Visayas Pardo Campus, located in Barangay Poblacion, Pardo, within the 2nd District of Cebu City. The University of the Visayas Pardo Campus was a satellite campus of the University of the Visayas Main Campus in Cebu. It offered various programs, including Bachelor of Physical Education, Bachelor of Elementary Education, and Bachelor of Secondary Education major in English, Filipino, Mathematics, Science, and Social Studies.

The researchers selected this institution as the research environment due to its alignment with the school's objectives, particularly those articulated in its vision, mission, and goals. The University of Visayas aspired to be a globally recognized private non-sectarian university, dedicated to excellent, transformative, and innovative education. In pursuit of this vision, the university fostered a supportive research culture among its students, faculty members, and non-teaching staff, complementing its academic programs and community engagement initiatives.

The College of Education also employs a blended learning mode that employs traditional classroom teaching along with computer mediated education. This method also enables the learner to learn course content and engage in class debate as well as practice in class and virtually through participation in entertaining activities. The College of Education applied blended learning to give the students an active and flexible way of learning where they can interact with people and at the same time use the internet for learning purposes. This method maintains the core value of the university, which is quality education, in the era of changing expectations of how education is conducted. The researchers opted for University of the Visayas College of Education students because of the established need for a blended learning environment that meets the university's vision of learners transformed through engaging and meaningful learning through the integration of technology into education for the 21st century workforce.

Respondents

The respondents selected universal sampling techniques. The universal sampling technique refers to a method of discretization that allows for the approximation of integral norms of functions from a collection of subspaces. The respondents of the study would be the 1st year BSED major in English of the University of the Visayas Pardo Campus of Academic year 2023-2024. The total population of 1st year BSED major in English is 15. The following criteria should be met for the respondents to be included.

Table 1:

Inclusion and Exclusion criteria

Inclusion	Exclusion
Currently studying at the University of the Visayas Pardo Campus	Students who are not enrolled at the the University of the Visayas Pardo Campus
Must be first year BSED major in English	Not first year BSED major in English
Freshmen/nonrepeater	Not freshmen/nonrepeater
Enrolled with 29 units	Enrolled with less than 29 units

Instrument

The researchers used a modified Technological Proficiency Self-Assessment Questionnaire (TPSA) authored by Christensen and Knezek (2015). The TPSA contained 34 items, each rated on a scale of 1-5. The survey questionnaire was presented in three sections: Part I. Demographic Profile, Part II. General Weighted Average of Academic Performance, and Part III. Technological Proficiency Skills. The TPSA questionnaire measured the respondents' technological proficiency.

The authors' analysis of the TPSA data led them to the conclusion that the original 34-item instrument was still useful and functional after 15 years. It was further investigated with a larger sample size to see if the two emerging technology constructs were strongly associated with the four constructs represented by the conventional four assessment scales.

Data Gathering Procedure

The researchers implemented various measures to ensure proper due process adherence, following the required protocol and procedures. The data collection was divided into three distinct phases: pre-data gathering, actual data gathering, and post-data gathering.

Pre-Data Gathering. Before any data collection, the researchers took several necessary steps to ensure consent and provided the necessary permissions. First, the title of the research proposal was submitted to the course instructor and awaited approval from the College of Education of the University of the Visayas Pardo Campus. This allowed the principals to review the proposed assessment and give their input or approval. Additionally, the researchers met and consulted with the REC (Research Ethics Committee) prior to conducting the study. Obtaining the consent of those organizations was an important step in the initial data collection process and demonstrated the researchers' commitment to conduct this study in an ethical and responsible manner.

Actual Data Gathering. The researchers first checked the availability and willingness of the respondents to participate in the study. After engaging in a blended learning environment, a questionnaire was then administered to assess students' technical skills and academic performance. The survey would take each participant approximately 15- 20 minutes beforehand, and they are finished. Throughout the process, researchers emphasize that participation is strictly voluntary and that there should be no pressure on individuals to participate in the study. This approach will ensure ethical data collection while respecting the independence and confidentiality of the student interviewees.

Post Data Gathering. Once data were collected, they were analyzed and interpreted. The researchers ensured the security of the data. The data were kept in a file cabinet and locked for 2-3 years, with access only to the researcher. After 3 years, the researchers trimmed the data. The data confidentiality protocol was maintained throughout the study to prevent misuse of data. The researchers maintained the confidentiality of all data collected.

Statistical Treatment Data

The specific statistical tool depends on the nature of the data and the research questions being investigated. Here are the statistical tools used in this study.

Weighted Mean was employed to assess the degree of students' technological skills. This involved assigning weights to various response categories, ensuring that the weighted mean considered the importance or significance of each response in computing the overall mean. Standard Deviation provided an indication of how different or deviant the responses to technical proficiency and academic achievement were from the mean. It indicated the number of data points that were wide or scattered around the mean and allowed for changes in the data structure to be understood. Pearson R Product Moment Correlation Coefficient was used to determine the relationship between technological proficiency skills and academic performance. It measured the strength and direction of the linear relationship between two continuous variables, indicating the degree of association between the variables.

Ethical Consideration

The ethical standards outlined were used in this study to ensure the protection of human rights, particularly those of the respondents. It ensured that the benefits outweighed any potential risks and that privacy was preserved. The study adhered to the three overarching ethical principles outlined by the Belmont Report, which are as follows:

Beneficence and Nonmaleficence. The researchers ensured that there were benefits and no harm done to their respondents. The benefit of the study was to determine the students' technological proficiency skills and academic performance in a blended learning environment at the University of Visayas-Pardo Campus.

Respect. The researchers ensured respect for human dignity, the second ethical principle in the Belmont Report. This principle encompassed the right to self-determination and the right to full disclosure. Complete transparency about the study was provided to respondents, with the researchers carefully explaining the study's purposes. Respondents had the right to choose to participate or withdraw from the research as they wished.

Justice. Respondents were treated equally, regardless of whether they chose to participate or withdraw. There were no biases imposed on the respondents' names and sex.

Results and Discussion

This part contains the presentation, analysis, and interpretation of the data on the relationship between the student's technological proficiency skills and academic performance exposed to blended learning in their first year as BSED English at the University of the Visayas- Pardo Campus.

Technological Proficiency Skills

This refers to the ability of the students to effectively use technology for learning purposes. These skills include the ability to navigate online platforms, use digital tools for research and collaboration, and critically evaluate information obtained from online sources.

Table 2

Technological Proficiency Self-Assessment

Statements	Weighted Mean	SD	Interpretations
1. Send an E-mail to a friend.	3.26	5.24	Strongly Agree
2. Join a discussion list by Subscribing.	3.06	5.22	Strongly Agree
3. Make an "alias" or "nickname" to send e-mails to several recipients simultaneously.	2.06	5.22	Strongly Agree
4. Attach a document to an email.	4.33	5.08	Strongly Agree
5. Save copies of the communications I send out to the world.	3.6	5.72	Strongly Agree

Note: 1.00-1.80 strongly disagree, 1.81- 2.60 disagree, 2.61 - 3.40 Neutral 3.41-4.20 Agree, 4.21-5.00 strongly agree.

The findings presented in Table 2 provide a self-assessment of technological proficiency among the study participants (Smith et al., 2023). The statement "Attach a document to an email correspondence" had the highest mean score of 4.33, indicating a high level of proficiency in this area. Conversely, the statement "make an alias or nickname to send emails to several recipients" had the lowest mean score of 2.06, suggesting a lower level of proficiency in this competency. This disparity highlights the need for targeted training and development initiatives to address specific skill gaps.

This data can be leveraged in various ways to support individual and organizational growth. High mean scores reflect areas of strength, where students demonstrate proficiency in particular technological skills. For instance, the high mean for "Attach a document to an email" implies that employees are comfortable and adept at this task. Conversely, the low mean for "Creating an alias to compose mass emails" suggests a need for additional training or support in that specific competency. By understanding the strengths and weaknesses in technological proficiency, organizations can allocate resources more effectively, provide tailored development opportunities, and ensure that employees have the necessary skills to excel in their roles and contribute to overall organizational effectiveness.

Table 3

Teacher Professional Development and Instruction

Statements	Weighted Mean	SD	Interpretations
1. If I could download and read e-books, I would feel confident.	4	5.46	Strongly Agree
2. If I could download and watch streaming videos, or movies, I would feel secure.	3.86	5.57	Strongly agree
3. If I could send and receive text messages, I would feel secure.	3.6	5.42	Strongly Agree
4. If I could download and listen to audio books or podcast, I would feel secure.	3.66	5.46	Strongly Agree
5. If I could save and retrieve, I would feel secure doing so.	3.73	5.47	Strongly Agree

Note: 1.00-1.80 strongly disagree, 1.81- 2.60 disagree, 2.61 - 3.40 Neutral 3.41-4.20 Agree, 4.21- 5.00 strongly agree.

The data shown in Table 3 provides valuable insights into the areas of teacher professional development and instruction. The statement "if I could download and read books, I would feel confident" received the highest mean score of 4, indicating a higher level of confidence and competence among teachers regarding the use of digital tools for accessing educational resources (Smith, 2020). Conversely, the statement "if I could send and receive text messages, I would feel secure" received a lower mean score of 3.6, suggesting that teachers may be less comfortable with more basic digital communication skills. This disparity highlights the need for a multifaceted approach to professional development, addressing both advanced and foundational digital literacy skills.

These findings can be leveraged to enhance the professional development and instructional practices within the educational institution. Based on the data, the institution could implement targeted training programs to address the specific needs of teachers. For example, teachers who are already confident in downloading and reading e-books could benefit from advanced workshops on utilizing digital libraries and integrating these resources into their curriculum. Addressing the areas of lower confidence, such as basic digital communication skills, would also be important to ensure that all teachers are equipped with the necessary technological competencies to effectively integrate digital tools into their instructional practices. By understanding the teachers' comfort levels with various digital tools, the institution can align its technology integration strategies to better suits the need and preferences of the educators. This data-driven approach can facilitate a smoother adoption of digital technologies in the classroom, ultimately enhancing the level of engagement and effectiveness in students' learning (Jones, 2018).

Table 4

Emerging Technologies for Student Learning

Statements	Weighted Mean	SD	Interpretations
1. I'm sure I could set up a blog or wiki where my pupils could work together.	3.33	5.35	Strongly Agree
2. I'm sure I could instruct my kids remotely using internet resources.	3.6	5.3	Strongly Agree
3. I'm sure I could connect with people for my professional development via mobile devices.	4	5.59	Strongly Agree
4. I'm sure I could include mobile technology into my lesson plan	3.6	5.36	Strongly Agree
5. I'm sure I could use a smartphone to transfer images or other info.	4.13	5.66	Strongly Agree

Note: 1.00-1.80 strongly disagree, 1.81- 2.60 disagree, 2.61 - 3.40 Neutral 3.41-4.20 Agree, 4.21- 5.00 strongly agree.

Table 4 shows the emerging technologies for student learning. The statement "I'm sure I could use a smart phone to transfer images or other info" got the highest mean of 4.13, indicating a high level of emerging technologies for student learning (Smith, 2021). On the other hand, the lowest mean is 3.33 in the statement "I'm sure I could set up a blog or wiki where my pupils could work together" (Smith, 2021).

The emerging technologies for student learning as presented in Table 4 can be used in different ways to improve educational practices and encourage effective use of technology in the classroom (Jones, 2020). This information can be used by school administrators to create curriculum modules that include emerging technologies effectively (Miller, 2019). It is possible to make lesson plans more interactive and engaging by focusing on aspects where teachers feel comfortable, such as using smartphones for transferring images (Davis, 2018). Inclusion of technologies that teachers are knowledgeable about will improve student engagement and participation during learning activities (Wilson, 2017).

Teachers' ability to transfer images or information through smartphones can facilitate interactive and multimedia-rich experiences for students (Thompson, 2016). In general, applying this data may result in increased efficiency with regards to technology integration in education, better teacher professional development opportunities, and improved student learning outcomes through a well-thought-out infusion of new instructional technology into the classroom (Johnson, 2015).

Students' Academic Performances

The data presented in Table 5 indicates that the general weighted average of the students' academic performance has a factor mean of 1.5, interpreted as "very satisfactory," with individual general weighted averages ranging from 1.3 to 1.8, showcasing strong performance across subjects.

Table 5

Academic Performance of Students

Respondents	Mean of GWA	interpretation
Students 1 and 2	1.3	vs
Students 3, 4, 6, 7, 11, and 15	1.5	vs
Students 5, 8, 9, and 12	1.6	vs
Students 10 and 13	1.7	vs
Student 14	1.8	vs

Note:1.0- 1.2 – excellent; 1.3-2.0- very satisfactory; 2.1-2.5- satisfactory; 2.6-2.9- fair; 3.0- passed; 3.1- 5.0- failed

This analysis of academic performance focuses on tests, coursework, and examination, offer insights into the curriculum quality, teaching effectiveness, and instructors' capabilities (Durden and Ellis, 2022; Kamonpattananan, 2000). The significant influence of prior educational performance on current success implies that higher past performance correlates with better academic outcomes ahead (Kamonpattananan, 2000). The high level of academic performance displayed by the student cohort suggests effective educational practices, yet the variance in individual performance underscores the importance of identifying and addressing factors that may impede some students' progress. Continuous monitoring and targeted interventions are essential to ensure all students can achieve their maximum potential.

Technological Proficiency and Academic Performance

The results presented in Table 6 do not support a significant relationship between Technological Proficiency Skills and Academic Performance ($R = 0.38$, $p = 0.15$) (Aypay, 2010). Thus, students' performance levels in terms of technology are not related to their overall academic outcomes.

Table 6

Relationship between Level of Technological Proficiency Skills and Academic Performance

	r-value	p-value	Decision	Interpretation
Level & GWA	0.3846	0.1569	Failed to reject Ho	Not significant

Note: Significant if α level<0.05

These results were also observed for the PISA 2006 assessment, where it was reported that increased use of ICT does not mean better student performance (Aypay, 2010). However, the major curriculum changes in Turkey in 2005 that included computers and other instructional technologies within the constructivist classroom approach might have established a more positive dependency of ICT and student performance for the PISA 2009 administration (Sahin, 2010). This finding emphasizes the interactional nature of technology use and academic performance depending on larger-scale educational factors.

CONCLUSIONS

In this study, it was discovered that while students demonstrate a range of technological proficiency skills, with strengths in basic tasks and areas for improvement in more advanced skills, there is no significant relationship between these skills and their academic performance in a blended learning environment. This finding supports the null hypothesis, suggesting that technological proficiency alone is not a direct predictor of academic success.

The research reveals that while students exhibit strong academic performance overall, the interaction between technology use and academic performance is complex and influenced by broader educational factors. This emphasizes the need for a holistic approach to education that considers individual student needs, pedagogical strategies, and the effective integration of technology within a supportive learning environment.

RECOMMENDATIONS

Based on the results of the study, the following are recommended and suggested.

1. The researchers suggest training for students on using technology wisely, especially educational apps. This is a great idea, given the need to close the

2. Training for teachers is also recommended to help them effectively implement blended learning. This is crucial, as teachers are key to successful blended learning environments.

3. Parents/guardians should be involved in guiding their children on using technology and educational resources effectively. This is important for reinforcing good digital habits and ensuring that technology is used for learning.

4. For further study, the researchers will recommend the following studies:

a. Qualitative Exploration of Blended Learning Experiences

b. Comparative Study of Blended Learning Models

c. Investigating the Relationship Between Technology Proficiency and Student Engagement

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TEACHERS' LIVED-EXPERIENCES IN HANDLING AND UTILIZING AI IN THE TEACHING-LEARNING PROCESS

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ABSTRACT

The study explored the live experience of the five instructors from the University of the Visayas College of Education during the 2023-2024 school year as they discover the deal with and the use of the AI in the teaching and learning processes. The researcher discover that the teacher frequently employs AI tool such as the virtual assistant, search engine and the grammar checker which had substantial impact on the teaching practices. The teacher reported both benefit and the obstacle incorporating AI into the classroom. On the positive side they stated that the AI tool improve the productivity, creativity and the collaborative learning. They encountered difficulties such as worries about the authenticity of the student work and the need to further training to effectively use AI in the teaching. The research found that the teacher went beyond to learn more deploying in the AI in the classroom. The passion and the desire to adapt the technology innovation in education is admirable. The finding also suggest that the Department of Education should provide more support and the resources to assist the instructor in integrating AI into the teaching and the learning process. This could include the professional development opportunities, guidelines to the ethical AI practices and the development of the AI powered educational tool that align with the curriculum and the learning objectives. The study highlights the role for their student. The researcher found that the educational institution can better promote the successful and responsible integration of the AI in the classroom by identifying and responding the teacher lived experience and the demand.

Keywords: *Lived-experiences, AI tools, Teaching-learning process*

INTRODUCTION

Artificial Intelligence was rapid transforming through education sector with the potential to revolutionize the teaching and learning. The AI-powered tool and the application could help the teacher personalize the instruction, provide the real-time feedback and identify the student who need extra support. The implementation of the artificial intelligence in the education was still in the early stage and the teacher face number of challenges in handling and utilize AI in the teaching-learning process. According to Fitria (2021) one of the biggest challenges was the lack of the teacher training on the AI education. Many of the teacher were not familiar with the artificial intelligence and how the use it effectively in the classroom. This leads to the reluctance to adopt the Artificial Intelligence and technologies to misuse.

Another challenge was the potential for the Artificial Intelligence in existing educational inequalities. According to Majid and Lakshmi (2023) student from the low-income families and underserved communities may not have access to the same AI- powered resources as the more affluent peer. This leads to the widening achievement gap. Despite the challenges the potential benefit of the AI in education were significant. According to Abdellatif et al. (2020) artificial intelligence powered tool could help the teacher personalize the instruction provide the real time feedback, and identify student who need extra support. Artificial Intelligence could help teacher to create more engaging and interactive learning experiences.

Artificial Intelligence has the potential to revolutionize education but its implementation in the classroom was not without the challenges. The teacher was at the forefront of this transformation, and their experiences in handling and utilizing AI in the teaching-learning process were essential to understanding how to best leverage this technology to improved student outcomes.

One of the biggest challenges for the teachers was the lack of the technical expertise. AI tools and application could be complex and difficult to used especially for the teacher who were not familiar with the technology. This would lead to the frustration and to adopt AI in the classroom. Another challenge was the cost of the AI tools and the application. Many of the school and the universities do not have the resources to purchase and maintain the technology they need to incorporate AI into the classroom. This creates digital divide between the student from the affluent and the underprivileged background (Barrios, 2019). There was also ethical concern associated with using the AI in education. One of the biggest dilemmas was the potential for the bias in the AI algorithms. If an AI system were trained on biased data, they could perpetuate these biases in the recommendation and the feedback. This provides negative impact on the student from the marginalize group. Another ethical concern was the potential for the AI to replace the human teachers (Xu, 2020). Some people fear that AI would eventually able to automate the task currently perform by the teachers. This leads to the job losses and the decrease in the quality of the education (Lakshmi, 2023).

Despite the challenges the teacher was finding innovative way to use the AI in the classroom. The integration of the Artificial Intelligence into the teaching learning process has gain significant traction in the recent year with the educator exploring the potential to enhance the pedagogical practices, personalize learning and the automatic repetitive task (Opara et al., 2023). Among to the various AI tool, ChatGPT a large language model. develop by the OpenAI has emerge as the promising tool for the teaching and the learning due to the ability to generate human-quality text, translate the language and write the different creative content format.

The potential of the ChatGPT for teaching, learning and research. The author evaluates that ChatGPT capabilities and limitation in the various educational context highlight the ability to provide the rapid and instant response to the search queries, generate text in the conversational style and to adapt to the individual learning needs (Opara, 2023). The study identified challenges associated with ChatGPT such as potential biases in the responses, the lack of the transparency in the decision-making process and the need for the

careful integration into the existing pedagogical framework.

Furthermore, Teacher use ChatGPT to improve the teaching and learning practices (Mondal et al., 2023). ChatGPT use to generate the personalize learning material by adapting existing material to the specific needs of the individual student. ChatGPT use to generate different version of the text each with different level of the difficulty. This could be helpful for the teacher who want to differentiate instruction and provide the student with the appropriate level of the challenge. In addition to generate personalize learning material and provide feedback. ChatGPT also use to create engaging learning experiences.

The importance of the ethical consideration when using the AI education. They recommend that the teacher carefully select AI tool and application that were align with the value and that they provide the student with training on how to use the AI responsibly. Teacher education institution was beginning to prepare the teacher for the use of the Artificial Intelligence in the classroom. Some institutions were offering courses on the AI for education and developing the Artificial Intelligence power teaching and learning material (Alda, 2020). The importance of developing the national strategy for the implementation of the Artificial Intelligence in education in the Philippines. This argues that strategy should address the challenges of access, equity, and quality (Vidal, 2023). The perspective of English language teacher in the Philippine state university on the material development in the flexible learning amid the pandemic. The author argue that the teacher uses a variety of the AI power tool to develop the learning material such as the online video editor presentation maker and the assessment tool.

The limited research on the teacher experience with AI in education specifically at the University of the Visayas College of Education underscore the important of the understanding the challenges and the opportunities. Professor Reyes and other educator grapple with understanding AI algorithm addressing technical issues and diverse student response. Teacher experience would enable the development of the effective strategies that ensure AI benefits all students. Teacher experience with AI at the University Visayas College of Education essential for effective implementation and maximize the benefit for of the students.

The purpose of the study was to explore the experience of the teacher at the University of the Visayas College of Education in handling and utilize the AI in the teacher learning process. The study identified the challenges and the opportunities that teacher face, the perception of the impact of the AI on the teaching and learning practices and the best practices for supporting teacher in the use of AI. The finding of the study contributes to the understanding of how to effectively implement AI in the classroom and ensure that all student benefit from the technology.

DOMAIN OF INQUIRY

The study explored the lived- experiences of the teachers utilizing AI in the teaching learning process at the University of the Visayas College of Education Academic Year 2023-2024.

Specifically, the study answered the following questions:

1. What was the lived-experiences in utilizing AI in teaching learning process?

2. What was the essence of their experiences?

3. Based on the findings of the study, what recommendations could be proposed?

METHODOLOGY

This section described and discussed how the researchers gathered the necessary data and information that uses in the entire study. This also show the procedure of data collection and instruments that are being used.

Design

The study used qualitative approach. The phenomenological research is qualitative research approach that seek to understand and describe the universal essence of the phenomenon. The approach investigates the

everyday experience of the human being while suspending the research preconceive assumption about the phenomenon. Phenomenological research study live experience to gain deeper insight into how people understand those experiences (Delve & Limpaecher, 2022).

Phenomenological was chosen for the research to delve into the live experience of the individual and to understand the essence of the experience regarding the phenomenological. The approach is powerful in education research as it allows for an in-depth exploration of the individual. Phenomenology help uncover the rich detail insight that quantitative method might overlook. This is about capturing the essence of experience as they are subjectively live which is invaluable when the research aims to inform educational practices and policies that are responsive to the actual need and the perspective of the learner and educator.

Environment

The study conducted at the University of the Visayas College of Education. The research aimed to explore into the dynamic intersection of the education and artificial intelligence within the unique context of the University. The University of the Visayas

College of Education was in Pardo, Cebu City it serves as the academic hub offering the range of the courses to the student seeking higher education. The campus features modern facilities and the conducive learning environment with the dedicated faculty as it strives to provide quality education and prepare the student for the future careers. The University College of the Education stand as the beacon of the learning in the community fostering the academic excellence and personal development. The campus diverse academic program and innovative initiative compelling site to explore how the educator integrate Artificial Intelligence into the teaching learning process. The school commitment to quality education and the openness to innovative approaches to make it suitable environment for observe and studying the impact of AI in the teaching learning process.

Informants

The informant of the study was the teacher who utilize Artificial Intelligence. Only women participate in the study. Each of informant answer all questions base on the information that provide by the researcher. The researcher interview 5 teachers in the University of the Visayas College of Education.

Purposive sampling interview 5 teachers base on relevant criteria for studying teacher experience using the AI in the teaching-learning process. This approach ensures the targeted and insight examination of educator who have direct experience with integrating Artificial Intelligence into the teaching practices. The goal was to capture the diverse perspective and insight could contribute to the comprehensive understanding of how the Artificial Intelligence was utilize in educational setting. The research investigates the teacher training need to understand and respond to the residents using Artificial Intelligence. The inclusion criteria aim to create the sample that were both diverse and focus on teacher who can provide meaningful insight into the challenges, benefit and impact of Artificial Intelligence in the teaching-learning process.

Table 1

Inclusion-Exclusion Criteria

Inclusion	Exclusion
Teachers utilizing AI	Teachers were not utilizing AI
Currently teaching in the College of Education	Not currently teaching in the College of Education
Agree to participate in the study	

Instrument

The study utilize research made interview guide consistent open-ended question. The researcher made a certificate for the approval of the open-ended question and it was approved by the panelist. After that it develop and utilize an interview guide that consist of open-ended question in 3 parts namely Part 1: Participant Personal Profile include the name, school, grade level subject area, years of teaching experience and experience using the AI in the classroom. Part 2: Experience with AI in the classroom. Open-ended questions were provided to accommodate to free formatted views related to the topics or issues. In this way, the instrument was authorized to obtain data response.

To construct the data, the researchers were using a phone to record the informants answer and translate it into English or transcript it. By doing that the researchers used also a notebook and pen to take down notes while the informants were answering the questions that was provided by the researchers.

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DATA GATHERING PROCEDURE

The researchers had undergone, three phases for data gathering namely the pre, actual and post data.

Pre-data Gathering. The researchers wrote a letter of request for formal permission to conduct the study addressed to the dean, the coordinator, and the informants, who were the teachers at the University of the Visayas College of Education. And after the researchers secured the letters of request, they also received a notice to proceed from the Research Ethics Committee (REC) before they conducted the study.

Actual Data Gathering. The study utilized an interview guide consisting of fourteen (14) open-ended questions, and these interviews explored specific instances of AI integration, probing for anecdotes that illustrate the dynamic integration between teacher and AI technologies. The researchers using face-to-face interviews at the University of the Visayas College of Education with five

(5) informants, which consisted of female teachers, and oriented the intended informants regarding our study. This allows the researchers to conduct 10–15-minute interviews about the challenges the teachers face in using AI in terms of the challenges they encounter. One of the researchers take notes and records them during the interview. The teacher informants received tokens right after the interview.

Post Data Gathering. After gathering the data, only the researchers had accessed the data, and could store it in a recording. The recording would be kept on a USB, which would be kept for three (3) years. After three (3) years, the recording could be deleted. This ensures transparency and allows informants to make informed decisions about their involvement in the study. Ultimately, the decision on how long to retain data should balance research needs with ethical and legal considerations. The disposal of data collected on "Teachers' Lived-Experiences in Handling and Utilizing AI in the Teaching-Learning Process" should be approached with careful consideration of ethical guidelines, legal requirements, and data protection standards. The researchers ensured the responsible and ethical disposal of data, safeguarding the privacy and confidentiality of informants.

Data Analysis

This study used an in-depth interview with a semi-structure interview guide to obtained data. Informants' viewpoints thoroughly investigated in this technique to create analysis that was relevant to meet the study questions. Colaizzi's (1978) method of data analysis were rigorous and robust, and therefore a qualitative method that ensures the credibility and reliability of its results. It allowed researchers to reveal emergent themes and their interwoven relationships.

Trustworthiness of the Qualitative Data

The rigor of the data collection process was adhered to, particularly during the interview phase. Rather than drawing conclusions from the interview, we rely solely on information obtained directly from the informants. No important information was left out, and no unnecessary information was added. The research was the basis for the study's conclusions about methodology, environment, and informants. The researchers employ questionnaires to assess the data gathering. It entails using methods and procedures to gather data wisely and legitimately.

According to Lincoln and Guba (1988), in that statement, the "truth value" (internal validity), applicability (external validity), consistency (reliability), and neutrality (objectivity) were systematically considered and rendered into criteria suitable for process judgments in naturalistic research. The four terms credibility, transferability, dependability and confirmability were established as the naturalist's equivalents for the more conventional rigor criteria of internal validity, external validity, reliability and objectivity (Lincoln and Guba, 1988). To guarantee the reliability of the methodology and compliance with quality standards in qualitative research, this study complies with the guidelines, which it elaborates on and describe in the following ways:

Transferability provides evidence that findings could be generalized and transferred to other empirical settings or points in time of the findings, a wide sample of informants who represented different demographic groups and educational situations was chosen. Furthering comprehension and allowing teachers in various contexts to connect the study's findings to their own experiences was the provision of thorough contextual information and examples in research reports.

Dependability provision of evidence for congruence between two or more independent people about the data's relevance or meaning (Lincoln & Guba, 1985). To ensure information gathered from informants was more dependable when it follows a consistent and organize interview process. More ways to improve the reliability of the data gather were to perform member-checked, which involved asking teachers who have question for input on how accurate their answers.

Confirmability implied that how much others confirm the research findings, which the review methods by informants, review by supervisors and colleagues, researcher's

validity, overview of conflicting cases, exacted explanation of details used to improve (Lietz and Zayas, 2010). To ensure it was beneficial to have a uniform set of assessment criteria and questions to ensure uniformity and impartiality when evaluating the experiences and viewpoints of those integrating artificial intelligence. Furthermore, keeping thorough records of the interview processes and analysis techniques promotes external validation and transparency, both of which increase the study's overall confirmability.

Credibility was described with the terms "Authentic" and "Accurate" (Lietz & Zayas, 2010). According to Lincoln and Guba (1985) demonstrates internal consistency and consists of ensuring rigor of the research process and communicate the actions taken. To ensure accuracy and authenticity, it could be aided by using a verified and standardized interview methodology in conjunction with member checks, in which teachers' examine and verify interview transcripts. Enhancing the overall credibility of the findings through the integration of views and the mitigation of potential biases by triangulation with other data sources leads to a more comprehensive knowledge of teachers' interactions with AI in the classroom.

Ethical Consideration

Following the ethical considerations of the 1978 Belmont Report, research demonstrates their dedication to respecting the core ideals of respect, beneficence, justice, and transparency. These principles provide ethical consideration, protecting informants' right and welfare, and ensuring that the benefits of research were disperse equally.

Protection of Human Rights. The researchers were responsible for ensuring that informants rights were maintain and their information was kept confidential. There was no public exposure of informants' personal information. The researchers notify the informants that this study was solely for educational growth.

Beneficence. Persons were treated in an ethical manner not only by respecting their decisions and protecting them from harm, but also by making efforts to secure their wellbeing. Such treatment falls under the principle of beneficence. The term "beneficence" was often understood to cover acts of kindness or charity that go beyond strict obligation. Respect. The researchers were open to the diversity of the students and would not violate their privacy. As a result, researchers respect and treat informants properly.

Justice. The researchers treat the informants fairly and equally. The researchers do not tolerate any injustice that occurs when some benefit to which a person was entitled was denied without good reason or when some burden was imposed unduly. Another way of conceiving the principle of justice was that equals ought to be treated equally.

Transparency. The fourth principle was transparency, which supports the premise that individuals should be considered independent individuals and entails the study informants' voluntary participation with enough knowledge. To start with the data collection process, the researchers must obtain consent or a letter of approval from the dean, the teacher, and the students.

Profile of Informants

Teacher A was a social science teacher at the University of the Visayas- College of the Education. She teaches first-to third-year students in the College of the Education. She has been teaching for ten years and has one year of experience using AI in the classroom.

Teacher B was a teacher at the University of the Visayas College of Education, instructing second and third-year tertiary students in science. With a full-time teaching experience of two years at the elementary level and six years in tertiary /college. She utilizes various AI tools in the classroom for five years.

Teacher C was a college teacher at the University of the Visayas College of Education, TLE (Technology and Livelihood Education) in third year college. She has four years of teaching experience and has been

utilizing AI in the classroom for the past two years. She uses AI to integrate into her lessons to be more engaging and personalized students learning experiences.

Teacher D was an experienced educator with eighteen years of teaching in first- to third-year College in the fields of social studies. She is currently affiliated with the University of the Visayas. Over the past year, she has incorporated artificial intelligence into her teaching practices, leveraging its capabilities to enhance the learning experience for her students. This way it helps students to develop critical thinking for a technology driven world. Teacher E was a dedicated educator at University of the Visayas College of Education. Her field expertise is on General Education, focusing on DOPE and English subject and technical writing, with seven years of teaching experience and counting. Although she has less than a year of experience using AI in the classroom, she was eager to integrate this technology into her teaching practices.

Thematic Analysis

Theme 1: Adaptation to Teaching Challenges Sub-theme: Resource Constraints

Teachers often face limitations in resources such as teaching materials, classroom space, and technological tools. Strategies for adaptation include improvisation, collaborative resource sharing, and seeking external support.

Sub-theme: Diverse Student Needs

Teachers encounter students with varying academic abilities, learning styles, and socio-economic backgrounds. Adaptation involves differentiated instruction, personalized learning plans, and fostering an inclusive classroom environment.

Number one is the internet, so you really must have a stable internet. You should also wish to use AI because you should be able to be always connected to the internet. And then the device itself is that personally, it is kind of hard to edit a video using Canva on your phone, so it would be best to use a laptop or the correct device so that you will be able to navigate. (Teacher B, Line No. 356- 367)

Theme 2: Professional Development and Continuous Learning Sub-theme: In-Service Training

Participation in professional development programs enhances teachers' skills and knowledge. Teachers value workshops, seminars, and courses that are relevant to their specific teaching contexts.

Sub-theme: Reflective Practice

Reflective practice was integral to teachers' professional growth. Teachers engage in self-reflection, peer observations, and feedback sessions to refine their teaching strategies.

So far it saves me time for preparation, and then instead of spending more time for preparation, it helps me to shift other work instead, so I am not usually using AI all the time. So very, very limited. (Teacher A, Line No. 276-282)

It makes interaction really engaging for the students, especially when I use Kahoot in quizzes in our informative assessment. This is what it adds, more like it would motivate the students to really participate in that engagement, as for the same with Canva. When we let students create their own PowerPoint presentation, it can really show the creative side of the student as to how they will prepare their PowerPoint in application, integrating what they have learned when it comes to creating PowerPoints and other IMS or instructional materials. (Teacher B, Line No. 283—300)

Theme 3: Pedagogical Strategies and Innovations Sub-theme: Active Learning Techniques

Teachers employ active learning strategies to engage students and promote critical thinking. Techniques include group work, problem-based learning, and hands-on activities.

Sub-theme: Technology Integration

Effective use of technology enhances the teaching-learning process. Teachers utilize digital tools, online resources, and

educational software to support instruction and student engagement.

So, for one, it makes your task a little easier before you must; your only option that you can use is select; you can now use Freezy; you can use Canva; and other things. Also, lately I have discovered this app birds' story. It will allow you to teach English. It will give more color; it will not only top the creativity of the student but also their resourcefulness. So, AI is very helpful these days, and we should be able to use this kind of resource. (Teacher B, Line No. 227-240)

Theme 4: Emotional and Psychological Well-being Sub-theme: Teacher Stress and Burnout Teachers experience stress due to workload, administrative tasks, and classroom management challenges. Coping mechanisms include time management, seeking support from colleagues, and maintaining work-life balance.

Sub-theme: Job Satisfaction and Motivation

Job satisfaction was influenced by factors such as student progress, supportive administration, and recognition of efforts. Motivation was sustained through professional fulfillment, passion for teaching, and positive student-teacher relationships.

Using inside the classroom sounds advantageous, but in a third-world country like ours, it is very challenging for us teachers. I find it difficult, not because I do not know how to use it, but rather because we do not have the means or the time to properly prepare and learn. And, because our students do not have the devices. As a matter of fact, upon using technology inside the classroom, only a few students own a computer or a laptop. So, using AI in teaching and learning may be unfair, especially to those who do not have the means. So as much as I want to integrate AI into my subjects, it is kind of difficult. (Teacher C, Line No. 172-191)

I am expecting it to be more convenient and easier. It feels like a hassle-free experience. (Teacher D, Line No. 192-195)

CONCLUSIONS

The integration of the Artificial Intelligence in education has been transformative offering the time saving and the increase student engagement. The teacher often time saving and increase the student engagement. The pre-service teacher express mix feeling about the AI citing concern about the overreliance on technology and ethical issues while the AI provide superior scaffolding and personalize learning, it raises concern about the changing role of the teacher and transparency of the AI decision-making. The future of the AI in education is promising but require the collaborative effort among the teacher, administrator and policymaker. Addressing the challenges such as the need for the technical expertise limited resources and data pricey concern is important. Effective AI system should emphasize explainability, human oversight and data management. The policies were needed to guide AI development in socially beneficial direction. AI has revolutionized productivity and decision- making but present security, privacy and the job displacement but present the security, privacy and job displacement issues.

RECOMMENDATIONS

The researchers respectfully recommended the following:

For Teachers: Engage in the continuous professional development to stay update on the AI tool and best practices. Collaborate with colleagues to share the experience and strategies for effective AI integration. Implement the AI in a way that complete traditional teaching method and enhance the student learning. Foster the classroom environment that encourage critical thinking about the ethical use of AI. This provides student with clear guideline on using AI tool responsibility and effectively.

For Students: Participate actively in the AI-based learning activities and provide feedback to improve the AI tools. Develop digital literary skill to effectively skill that effective use of AI tool and resources. Engage

in the discussion about the ethical use of the Ai in education.

For Parents: Support and encourage children use of the AI tool in learning activities at home. Stay inform about the benefit and challenges of the AI in education. Communicate with the teacher about the role and the impact of the Ai on the children learning.

For School Administrator: Provide the ongoing professional develop and training for the teacher on AI tools. Ensure the reliable access to the internet and AI resources for both teacher and students. Implement the clear policies and guidelines for the ethical use of the AI in the classroom. Promote the awareness and understand of the AI among the school community.

For Policy Makers: Develop and enforce the policies that support the ethical AI usage in the education. Allocate in the funding for the AI resources, infrastructure and professional development in the school. Encourage the research and pilot program to evaluate the effectiveness of the AI in education.

For Community: Advocate the equitable access to the AI technology and resources in the local school. Engage in the community discussion about the impact of the AI on education and the future workforce needs. Support the local initiative that promote the AI literacy and training.

For Researchers and Future Researchers: Investigate the long-term impact of the AI on the student learning outcome and the teacher effectiveness. Explore the ethical implication of the AI use in the education focusing on the data privacy and the bias. Develop the user-friendly AI tool tailor to diverse the educational need and context. Share the finding and the best practices with the educators, policymaker and the broader community.

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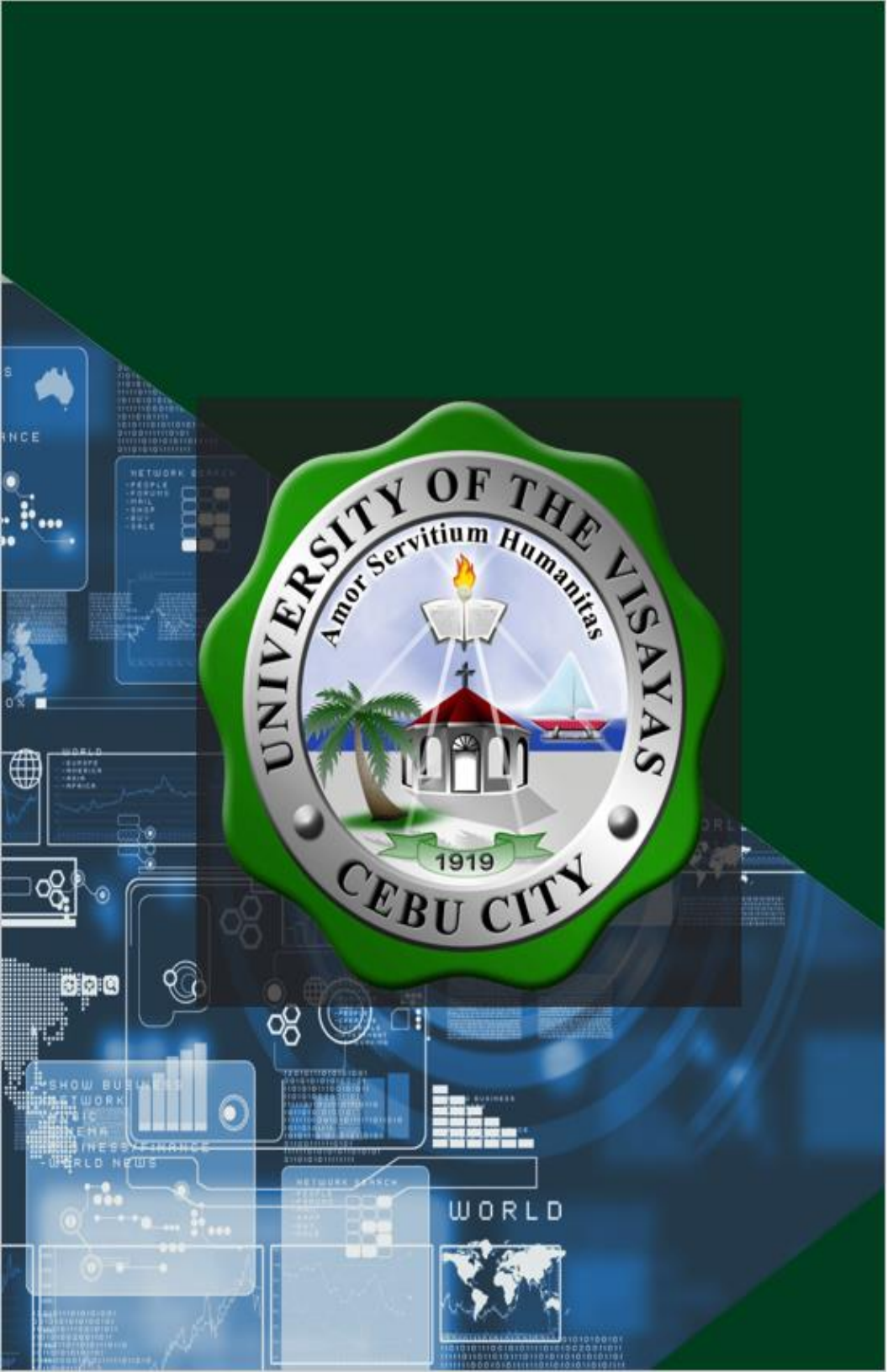
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