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Philippine Association of Graduate Students in Teacher Education, Inc. (PAGSTE)



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About the Cover

The Journal of Education and Learning Advancement thoughtfully designed its logo to encapsulate its core values and mission. The journal imbues each element of the logo with symbolic meaning, reflecting its dedication to education, innovation, and continuous improvement. Here are some explanations about the images in the logo.

Reading Books (Representing Education): Books have long been a universal symbol of knowledge and education. By featuring books prominently in the logo, the journal underscores its foundation in the dissemination and promotion of educational research and learning. The presence of books conveys the journal's commitment to providing a repository of knowledge and serving as a resource for educators, researchers, and students. The left side features a spectrum of colors, symbolizing various themes and innovation principles. The use of a spectrum of colors on the left side represents diversity and a wide range of topics. Each color represents a different theme or area of innovation within the field of education. This diversity highlights the journal's inclusive approach to educational research, welcoming contributions from various subfields and perspectives. It reflects the journal's aim to foster innovative ideas and promote comprehensive discourse on educational advancement.

The image on the right side depicts a person striving for excellence and continuous improvement. The depiction of a person reaching upward is a powerful representation of aspiration and progress. It symbolizes the pursuit of excellence and the ongoing journey of improvement that is central to education. This element signifies the journal's dedication to encouraging continuous personal and professional development. It embodies the belief that education is a lifelong process of striving for greater heights and achieving excellence. Through its visual elements, the Journal of Education and Learning Advancement logo effectively communicates the journal's mission and values. By combining symbols of knowledge, diversity, innovation, and continuous improvement, the logo not only captures the essence of the journal but also inspires its audience to engage with the content in a meaningful way. This thoughtful design ensures that the logo serves as a fitting emblem for the journal's commitment to advancing education and learning.

Digital Illustration and About the cover by Harrell G. Caballero (2024)

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About the Journal

The **Journal of Education and Learning Advancements (JELA)** is the official biannual open-access journal of the Philippine Association of Graduate Students in Teacher Education, Inc. (PAGSTE). It is a peer-reviewed, interdisciplinary, and multidisciplinary journal.

JELA welcomes original research, literature reviews, case studies, and policy briefs on a wide range of themes and topics related to teacher education and learning. Some potential themes or topics that could be included in submissions to the journal are listed below.

- Curriculum design and development
- Teacher training and professional development
- Pedagogical approaches and strategies
- Educational technology and digital learning
- Assessment and evaluation in teaching and learning
- Educational policies and their impact on teacher education and learning
- Cross-cultural and international perspectives on teacher education and learning
- Inclusive education and diversity in the classroom
- Research methods and approaches in the field of teacher education and learning

All submissions will be subject to a rigorous peer-review process to ensure their quality and relevance to the journal's mission.



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Welcome to the Journal of Education and Learning Advancements (JELA): A Maiden Issue

Arlon P. Cadiz

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One of the exciting parts in the life of a researcher is to communicate the research findings through publishing research articles. It is considered as one of the treasured moments in the academic journey of every researcher. As such, a researcher knows how to understand how the published research can contribute to wider society targeting a range of readers stakeholders, policy and decision makers, other researchers from the academe, and the general public.

On behalf of the Editorial Board of JELA, I humbly present to you the 13 featured articles of the maiden issue consisting of 11 research articles (7 in English and 4 in Filipino) and 2 policy briefs contributed by authors in disciplines and from the various diverse academic communities Department of Education (DepEd) and Higher Education Institutions (HEIs) within and outside the Philippines. Journal of Education and The Learning Advancements (JELA) is official biannual open-access the journal of the Philippine Association of Graduate Students in Teacher Education, Inc. (PAGSTE) that aligns with the journal's mission to advance teacher education and learning globally. It is а peer-reviewed, interdisciplinary, and multidisciplinary journal. JELA welcomes original research, literature reviews, case studies, and policy © 2024 Cadiz, A. P.

briefs on a wide range of themes and topics related to teacher education and learning revolving under (a) Curriculum design and development; (b) Teacher training and professional development; Pedagogical (c) approaches and strategies; (d) Educational technology and digital learning; Assessment and (e) evaluation in teaching and learning; (f) Educational policies and their impact on teacher education and learning; (g) Cross-cultural and international perspectives on teacher education and learning; (h) Inclusive education and diversity in the classroom; and (i) Research methods and approaches in the field of teacher education and learning. All submissions will be subject to a rigorous peer-review process to ensure their quality and relevance to the journal's mission. The four main sections of the journal-research articles, literature reviews, policy briefs, and case studies—reflect the journal's commitment to promoting critical reflection and scholarly exchange. Through these sections, the journal aims to contribute to the advancement of teacher education and learning and facilitate the translation of research into policy and practice. Overall, JELA is a valuable resource for scholars, practitioners, and policymakers in the field of teacher education and learning.

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The Journal of Education and Learning Advancements (JELA) is committed to publishing works that satisfy a high level of scholarship. Hence, it underscores the importance of respect for ethical considerations and research practices. Furthermore, it ensures the accuracy of knowledge production, the protection of the research rights and welfare of participants, and the protection of intellectual property rights. The Publication Ethics of JELA are based on the standards of the Code of Conduct and Best Practice Guidelines published by the Committee on Publication Ethics (COPE). As such, editors. authors. iournal and reviewers are expected to follow the ethical behaviors prescribed in this Journal.

JELA is highly committed to support professional engagement, development, and advancement. Thus, its logo, as a fitting emblem, reflects the journal's commitment to advancing education and learning. Moreover, in order to encapsulate its core values, each element of the logo has symbolic meaning reflecting its dedication to education, innovation, and continuous improvement. The three important elements of the logo: (a) reading books; (b) spectrum of colors; and (c) a person striving for excellence and continuous improvement manifest the solid view of the mission and vision of the journal which implies the importance of education, innovation, and reaching for aspiration and progress in the pursuit of excellence.

The first issue depicts the strong commitment of JELA in upholding the importance of the academic community through research-driven and policy-based informed decisions in advancing education: leveraging technology, curriculum innovation, policy reform, and cultural sustainability which are the focus of the research articles in this maiden issue. Likewise, the contributions of the author across disciplines and areas of research are crucial in realizing the mission and vision of the journal.

The maiden issue of this journal highlights the five major themes: (1) Innovations in Educational Technology and E-Learning for the first five articles; (2) Curriculum Development and Instructional Models for the sixth and seventh articles; (3) Cultural and Linguistic Preservation for eight to tenth articles; (4) Educational Support Systems and Student Development for the eleventh article; and (5) Educational Policy and Management for the two policies.

Mary Ashley H. Largo, Trisha Mae S. Sederia, Franz Czearvy P. Villadores, and Marisol D. Andrada's article titled "Smart Chat, Bright Minds: Does Chat GPT Propel Students to Academic Heights?" is the first article. The study examines the effect Chat GPT of on the students' engagement, efficiency, autonomy, and overall learning experience of the Senior High School students using the adapted survey questionnaire. The findings show that utilizing ChatGPT has a positive effect on students' engagement, academic efficiency, and academic autonomy. Moreover, there is a significant difference as to the effect of ChatGPT on learning outcomes across three groups (STEM, GAS) of respondents. CSS. and However, the study identified a challenge on academic integrity when it comes to the use of ChatGPT. Hence, the authors recommend the responsible and ethical use as well as the monitoring of this AI-generated material through the conduct of academic sessions and seminars for students and teachers.

"Utilization of Interactive E-Learning Instructional Supplemental Material in Cookery Exploratory Course" TLEauthored by Razelle C. De Galicia. Her study investigates the utilization and evaluation of the developed interactive e-learning supplemental instructional the TLE material in Cookerv Exploratory Course through Google Sites for Grade 7. The interactive e-learning material was evaluated following the Learning Resources Development Management System (LRMDS) guidelines prescribed by the Department of Education in the aspects of content quality, instructional quality, technical quality, and other findings (i.e., conceptual errors, factual errors, and grammatical errors). A developmental research was employed design (Analyze, Design, utilizing ADDIE Develop, Implement, and Evaluate) as the Instructional Design Model. Based on the findings of the study, e-learning interactive supplemental material supports the acquisition of learning among learners. The researcher argued that it is essential to assess the extent of learning challenges in online learning settings, ensuring that the complexity of instructional materials matches the abilities of students. needs and the other Similar to interactive materials that can only be accessed online, internet connectivity has been a challenge. Therefore, the study recommends the development of e-learning material which can be accessed offline to provide inclusive support for learners.

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The article written by Marjorie F. Batan titled, *"Project NICE: A Remediation Digital Kit for Improving the Least Mastered Mathematics Skills of Grade II Learners"* is the third featured article. The study evaluates the effectiveness of Project NICE which is a researcher-made technology-based remediation tool addressing aimed at the least-mastered mathematics skills of Grade 2 learners through personalized learning. The author employed the pretest and posttest design consisting of а 20-item validated test based on the 2^{nd} quarter Essential Most Learning Competencies to measure the mastery level of the learners. Pretest results have shown the least mastered skills including addition and subtraction within 1000, reading and writing large numbers, and solving word problems involving money. The results of the study also show the effectiveness of the remediation digital kit based on the t-Test results.

The study authored by Jonathan "Onlayn F. Alorro titled vs. Tradisyunal na Pagtataya sa Filipino ng mga Piling Mag-aaral sa Filipino: Tungo sa Mabisang Pagtatasa at Propesyunal na Pag-unlad" is the fourth featured article. The author evaluates the assessment methods (online and traditional assessments) and suggests an efficient way of assessing students' learning using the lessons prepared and taught by the researcher during the third grading Aside from using Google period. Forms for the tests, the researcher also used MS PowerPoint for teaching grammar and literature lessons, and incorporated other innovative strategies and applications in the online class such as Quizzes and Mentimeter in various parts of the teaching to further engage students in the Filipino subject. The researcher personally visited the homes of students involved in the traditional assessment (paper and pencil test) who needed to take a pretest and a posttest, while students involved in the online assessment (online tests) took their pretest and posttest using Google Forms. The findings revealed that students scored higher in online

assessments (online tests) using Google Forms compared to traditional assessments (paper and pencil tests). His study also showed that Grade 7-Faraday students learned equally well, whether through traditional or online methods. In view of the findings, the researcher suggests the use of both methods in teaching and assessment as they both demonstrate improvement in students' learning.

The fifth featured article titled "English Reading Partners on the Move: A Pre-Experimental Study to Improve Grade 2 Learners' Reading Skills" is written by Jenny Rose D. Liwanag, Julie Ann A. Esperida. Janice C. Montante, Michael G. Onato, & Christian G. Tugado. The designed authors а reading which intervention program thev conducted for about 4 weeks to determine the improvement in the in reading comprehension, skills sight-word efficacy, and fluency of Grade 2 learners. The intervention program contributes to the improvement the reading in comprehension and sigh-word efficacy based on the significant difference in results of the pre-test and the post-test mean scores.

The sixth article titled "Systematic analysis of instructional models in science: towards the development of instructional model" written by Mike Z. Piche, & Darry Roy T. Montebon discusses the different instructional models used in science through a systematic literature review from various databases such as ERIC, Google Scholar, and Emerald Insight. They conducted the review and of the development analysis of instructional models in science for the purpose of identifying the categories or criteria that guide the development of instructional models in science and procedures consolidating the or methods used by studies, leading to

the creation of a methodological framework specifically designed for science. A 10-year span, open access, and published journal in English Language were the inclusion criteria which resulted in a total of 1046 articles. A total of 100 articles were incorporated in the second screening conducted reviewing the abstracts and keywords of articles containing the term development. After thorough analysis, the review narrowed down to 15 articles shedding light on the research problem of methodologies used in developing science instructional models. Their study revealed three major themes namely: (grounds) of the model. origins essential elements or variables used in obtaining the models, and supreme guidelines outlining the procedures undertaken to develop the model. The results of the systematic review employed by the authors in this study can be adopted in developing science models for instructional leaders who are involved in designing learning models.

The seventh article titled "Hambingang-Suri sa Kurikulum ng Programang Edukasyong Pangwika-Filipino ng mga Piling Pamantasan sa Maynila" written by Maria Fe Hicana, Jhigo Pascual, John Patrick Santos, Ma. Antoinette Ayes, Ricka Leonardo, & Rose Ann Hernandez evaluate the program and develop a comparative analysis model. The authors argued the importance of the language education program in Filipino for those aspiring to specialize as Filipino teachers. The effectiveness of the comparative analysis model was determined through interviews with students, teachers, and alumni of these universities. Furthermore, data collected were validated using triangulation through cross-verification from more than two sources: (1) method and (2) data source. Their study found that the

comparative analysis model was effective as an evaluation tool for a curriculum program in the field of education.

The study of Maureen С. **Carasig-Paiton** titled "Kapakinabangan ng Pasyong Mahal sa Pagpapanatili ng Kultura sa Bayan ng Bulakan" is the eighth article. Her research aims to determine the significance of the Pasyong Mahal in preserving the culture in the town of Bulakan. In the study, the researcher argued that this cultural practice plays a significant role, especially since one of the authors of the Pasuona Mahal. Father Mariano Pilapil, was a native of San Jose, Bulakan. The respondents in this study are the readers of the passion. The study used a descriptive design through qualitative methods wherein the questionnaire used focused on the manner of reading the passion and its benefits. The study reveals the modern way of reading the passion which involves setting it to the tune of contemporary songs, while the traditional method follows specific tunes that have names such as Lamentasyon, Treskeda, and others. The researcher also found that the main difference between the modern and traditional passion is the tune used. One of the interesting findings is the crucial role of the family in maintaining this cultural practice among the youth and ensuring its continuation. In this study, the people of Bulakan still prefer to hear the traditional way of reading the passion.

The research titled "Mungkahing Planong Pagsasanay sa Pagpapalakas ng Mother-Tongue Based Multilingual Education para sa Piling Kaguruan sa Elementarya" authored by Jhun Dave Aguas, Maria Annie Francisco, Cherry Lou Magsombol, Nicole Navaritte, & Ann Gerrarde Pinili is the ninth article. The study aims to develop a proposed training plan focused on the enhancement or strengthening of Mother-Tongue Based Multilingual Education (MTB-MLE) for selected elementary school teachers. Their study used documentary and qualitative methods involving validated self-developed questionnaire to identify the challenges faced by Grade 1 to 3 teachers teaching MTB-MLE at Kaunlaran Elementary School. Their study reveals various issues such as the lack of teacher training and rapid student transition between grade levels. The authors developed and subjected the proposed training plan to evaluation prior to its implementation. The training plan is divided into three focus areas namely Content-Based, Strategy-Based, and Classroom Demonstration. The authors recommend for the review of the existing issuances of DepEd in order to strengthen the MTB-MLE and make it more suitable to the demands of the current educational landscape.

The study of Kris Maiden L. Joyosa, Ericka Danielle S. Dimaala, and Albert Andry E. Panergayo titled "Demographic Moderation in the Relationship of Environmental Awareness and Energy Literacy of Senior High School Students" is the tenth featured article for this maiden The study is issue. aimed at determining the moderating role of demographic factors in the relationship between environmental awareness and energy literacy of the senior high school students enrolled with different grade levels and strands. Their findings reveal а positive correlation between environmental awareness and energy which implies literacy that the understanding of senior high school students' energy-related matters they increase as become more environmentally conscious. Another interesting result of the study is that there is a significant relationship

between the level of environmental awareness and energy literacy of senior high school students. Moreover, the authors found out that relationship between the environmental awareness and energy literacy of senior high school students is not significantly moderated by their demographic characteristics as to sex, age, socioeconomic status, and junior high type of school. The strands and grade levels demonstrated significant moderating effects in the relationship environmental between awareness and energy literacy. The findings of their study imply that experiential learning activities should be strengthened through immersion activities to develop senior high school engagement student's active in energy-related activities which in turn increase their behavior to work for their environment.

The eleventh article titled "Evaluation of Student Reimbursement Research System for Prototypes: Adopt-A-Prototype Program" written by Juan Kristopier D. Angeles examines current financial the status of students in the Senior High School K to 12 Program particularly in the two subjects which are: Inquiries, Investigations, and Immersion (I3) and Practical Research I in the context of students' lack of financial capability of students in conducting research as an output for the said subjects. Hence, the author proposed the innovative student reimbursement program involving the private linkages in terms of sponsorship of the students' research prototypes. The researcher analyzed the evaluation of the Adopt-A-Prototype Program using the Index of Success Model, guided by the following criteria in assessing both the implementation and outcomes of an educational program: relevance, fiscal efficiency, effectiveness, impact, and sustainability. The study reveals the positive feedback of the Senior High

School students according to the index of successes model. Moreover, the respondents found the educational program valuable because provides the development it of knowledge and skills, sustainability, and financial and moral support. Addressing the limitations of the study, the author recommends the need for further improvement of the by evaluation tool utilizing the concept of developmental evaluation.

A Policy Brief on CMO 15 s. 2019: Strategies for Enhancing Educational Research Productivity in Philippine Higher Education Institutions is the twelfth article which was written by Nilo Jayoma Castulo explores the educational research productivity in the Philippines using the lens of the international perspective and offers recommendations to strengthen Philippine internationalization in higher education. The author discusses the policy recommendation into three sections: **before** (Rigorous Assessments based on the Institutional Admission Process Criteria), during (Implementing and Monitoring Research Practices: Strengthening Institutional Resources: Infrastructure, Funding, and Networks; and Engaged Pedagogy for Research Collaboration), and *after* (Evaluation of the Published Research). In the first section, the author emphasizes the need for robust assessments to identify the preparedness of students for а research-oriented degree program. In the second section, the author put a premium in establishing research practices in the academe in order to achieve a strong research culture through which can be done workshops, seminars, training, and for graduate education forums students. Moreover, in the second section, the author reiterated that institutional resources must be strengthened especially in the areas of

infrastructure (e.g., access to academic databases), allocations for research funding, and research networking by attending local and international research conferences. In the third section, the author highlights the relevance of a strong mentorship program to support graduate students through research collaboration with the faculty members. The author argued that the Commission on Higher Education (CHED) must focus on talent cultivation through support system mechanisms to increase students' research productivity.

The thirteenth and last article is another Policv Brief on Revolutionizing School Autonomy: Insights from School-Based the Management (SBM) System in the Philippines which was written by Jeremiah Paul G. Manuel, Mark Paulo A. Tajanlangit, Florenda P. Aquino, & Leah U. Vallega proposes а revolutionization in the School-Based Management (SBM) mechanism with adaptive countermeasures capable of dealing with the rising challenges of the times. This revolutionized SBM assumes efficacious means of dealing with the threats that the challenges project and implicate new policy considerations across government agencies. The authors investigate the implementation of SBM revealing three challenges encountered by its implementers and researchers which are: low managerial competencies of SBM key leaders, lacking school infrastructures, and confounding presentation of Means of Verifications (MOV) documents. As implications of the study, the authors presented three major policy recommendations Robust which involve: (1)SBM Exposures in Teacher Education Institutions; (2)SBM-Specific Year-Long Programs; and (3) Better Agency Funding. The limitations presented in the paper direct potential

future research involving case studies in local schools and field studies on student-teachers deployed in these schools.

The articles in this maiden issue investigate the multifaceted transformative power of new approaches in education. It explores how cutting-edge technology may student learning, using improve interactive e-learning resources and AI svstems like Chat GPT as examples. In addition, it looks at how curriculum and instructional models are created and analyzed to support efficient teaching methods. The maiden issue also includes management systems and strategic educational strategies that are intended to increase school autonomy and research output. Furthermore, it emphasizes how important it is to preserve language and culture through specially designed educational initiatives, guaranteeing a of multilingual future education, cultural heritage, and environmental education which in turn highlights the comprehensive progress made in education.

The members of the editorial board are very grateful to the authors who contributed their research article and to the peer reviewers who have rendered their time and effort to make each article worthy to be published. We also express our gratitude to Dr. Antriman V. Orleans, the Dean of College of Advance Studies and Editor-in-Chief of JELA and Dr. Bert J. Tuga (PNU President) for their support in making this inaugural issue of JELA possible.



Smart Chat, Bright Minds: Does Chat GPT Propel Students to Academic Heights?

Mary Ashley H. Largo, Trisha Mae S. Sederia, Franz Czearvy P. Villadores, & Marisol D. Andrada

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ABSTRACT

ChatGPT is an AI-powered chatbot being utilized more frequently in the field of education to promote academic achievement and cognitive development. This research ChatGPT's function in educational paper explored environments and how it may help students reach new academic benchmarks among senior high school students. The study employed descriptive-survey research design. The respondents were 89 Grade 12 students from STEM, GAS, and CSS strand. The data were tabulated and analyzed using descriptive statistics, Kruskal-Wallis H test and post-hoc-test, the Dunn-Bonferroni-Tests. The results increased student revealed ChatGPT engagement, efficiency, autonomy, and difference between the three groups, but there is a challenge about academic integrity. Therefore, teachers should provide sessions to promote responsible usage, and ensure continuous monitoring and ethical use of AI-generated material. The researchers plan to host seminars on educational benefits and minimize disadvantages, resulting improved academic in achievement. Further study involving equal grouping and larger samples in a longer period is also recommended to further establish the result.

Keywords: academic performance, artificial intelligence, ChatGPT, efficiency, engagement

Technology integration in the classroom is not a new idea (DO No. 78, s. 2010). However, the use of technology (hardware and educational applications) was maximized during the Covid-19 pandemic (DO No 28, s. 2021). And within the quickly changing era of education, Artificial intelligence (AI) like Chat GPT, an

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INTRODUCTION

advanced language model created by OpenAI (Fuchs, 2023) to produce text responses that are both intelligible and contextually appropriate in a conversational style has drawn notice. Just as the invention of computers and televisions was previously heralded as a revolution in education, so too have these technologies been

demonstrated to improve information availability. It can generate text that resembles that of a human, respond queries. and participate to in 2023). conversations (Hetler, ChatGPT Additionally, provides education and handles training, routine tasks, reduces expenses, enhances content quality, ensures digital accessibility, provides multilingual support, customizes responses, manages multiple users concurrently, comprehends natural language, and delivers immediate responses.

In education, ChatGPT can assist students who require additional help in specific subjects for personalized learning, automate repetitive tasks, provide 24/7and access to educational resources (Kirk, 2023; Mormando, 2023). It suggests that this technology can fill gaps in knowledge and support struggling learners, with a particular emphasis on cognitive growth, critical thinking, problem-solving (DepEd Order No. 21, collaboration 2019), s. and engagement (Li & Xing, 2021). Academic engagement is a complex concept that significantly influences learning experiences the and outcomes students. of Positive academic behaviors like motivation, achievement, increased and decreased attrition rates are all associated with it (Alrashidi et al., 2016; Alonso-Tapia et al., 2022; Trolian, 2023).

theories including Multiple Constructivist Learning Theory, Cognitive Load Theory, Technology Acceptance Model (TAM), Self-Determination Theory (SDT), and Connectivism (Glaser, 2023; Kim & 2023), can be utilized Adlof. to integrate ChatGPT into education. The Constructivist Learning Theory posits that knowledge is constructed by learners through their experiences which can be provided by ChatGPT personalized through learning,

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meaningful conversations, and construction of knowledge through interaction whereas Cognitive Load Theory aims to maximize the capacity of working memory. ChatGPT can assist with cognitive burden management by delivering information in digestible segments and providing prompt feedback. Intention to use technology is predicted by perceived utility and ease of use, according to the TAM. In contrast to SDT, which emphasizes competence and autonomy by allowing learners to control their learning pace, Connectivism highlights the role of technology in establishing maintaining and networks between learners and information. Integrating these theories would emphasize active learning, cognitive burden management, technology acceptance, self-determination, and connectivism. would provide guidance It and direction on how to utilize ChatGPT to establish a connected, interactive, and personalized learning environment that increases student engagement and learning.

However, Guilherme (2019) and Hetler (2023) stated that ChatGPT in the classroom can also result in negative outcomes such as susceptibility to misuse, lack of personalization, exposure to false information inaccurate and out-of-date information, social isolation, loss of human connection, ethical dilemmas, distraction. inequality, and technical limited emotional support. Additionally, it is incapable of accommodating different learning styles, and an excessive dependence on AI may result in a decline in critical thinking and problem-solving capabilities. Furthermore, when a student uses a chatbot application to get answers to their questions, it could be challenging for academic staff to evaluate the student's comprehension of the topic. This is due to the

possibility that the chatbot application's responses do not fairly the students' represent actual comprehension levels (Cotton, 2023). (2023) On the other hand, Lo evaluated ChatGPT's functionality various subjects across and educational implementations. The found that the platform author performed inconsistently, with outstanding performance in economics but inadequate in mathematics. Moreover, despite its potential as an online tutor, concerns about fabricated content and plagiarism detection systems remain. Hence, educators must approach integrating AI-driven chatbots with sincerity and contemplate its advantages and disadvantages. School districts also implemented network restrictions on personalized learning tools due to ethical concerns and limitations associated with their implementation in education (Glaser, 2023).

From the above arguments, the objective of this research paper is to analyze the multifaceted impact (pros and cons) of ChatGPT among Senior High School students in one public high school, investigating whether it functions as a catalyst for scholarly advancement or is it simply a trendy digital tool. Through an analysis of ChatGPT's capacity to facilitate engagement, improve critical thinking, and individualize learning, our objective is to ascertain its genuine educational worth and its potential to reshape the parameters of academic achievement. The study's wider implications for educational methods the and usage of AI technologies were explored, and recommendations for the integration of Chat GPT in educational contexts were made considering the findings.

STATEMENT OF THE PROBLEM

The study delved into the impact © 2024 Largo et al. ISSN 3028-2179 of Chat GPT on students' academic learning. This study specifically sought to answer the following:

- 1. How often do students use Chat GPT for their academic tasks and has it affected their engagement or interest in their studies?
- 2. Have students reported any changes in the time it takes to complete assignments or understand new concepts since using Chat GPT?
- 3. Has the use of Chat GPT helped students become more independent in their learning process and decreased their dependence on other resources like textbooks and tutoring?
- 4. Is there a significant difference among the three learning groups' overall learning experience when using Chat GPT?
- 5. What activities can be recommended to help improve students' learning through the correct use of ChatGPT?

METHODOLOGY

The study employed a descriptive-survey research design to describe the effect of Chat GPT on the students' engagement, efficiency, autonomy, and overall learning experience.

Respondents

Grade 12 students in one public senior high school were the respondents of the study. These students from Science, Technology Engineering and Mathematics (STEM), General Academic Stand (GAS) and Computer Systems Servicing (CSS) are using ChatGPT (Sidoti & Gottfried, 2023) because they are engaged in rigorous courses, practical learning, group assignments, and apprenticeships to develop soft skills, prepare for careers, participate in

research, and utilize technology for lifelong learning (Andrada & David, 2020; Wahono et al., 2020; Han et al., 2021; Ai, 2023).

To obtain a wide representation and a thorough knowledge of Chat GPT's influence on academic achievement. researchers the surveyed all grade 12 students from the three strata with enrollment: STEM-15, GAS-62, CSS-12. To get a meaningful result, the minimum sample must be 100, however, since there are only 89 grade 12 students, all of them were surveyed (Bullen & Bullen, 2022).

Instrument

The researchers used adapted survey questionnaire from numerous studies (Intelligent.com survey; Winn, 2023; Lo, 2023) to assess the effects of Chat GPT on various domains, including academic engagement, efficiency, autonomy, and overall learning experiences.

To guarantee content validity, the questionnaire was submitted for content evaluation to the ICT teacher, Language teacher, and Values Education teacher using a validation tool (Oducado, 2020). The instrument has a Very High validity value of 4.67.

reliability For the test, the questionnaire underwent Pilot testing to Grade 11 (STEM-19), (GAS-17), (CSS-18) students who are using ChatGPT but are not included in the final sampling. The KR-21 formula was used because there is no right or wrong answer (Glen, 2017). The computed reliability coefficient of 0.65 indicates a high reliability. This implies that the tool is internally consistent, dependable, and stable.

Data Collection Procedure

The survey questionnaire was distributed and retrieved from the

© 2024 Largo et al. ISSN 3028-2179 selected Grade 12 students to gather data on the usage of Chat GPT, their engagement, time spent on assignments, independence in learning, and overall learning experience (Lo, 2023).

Data Analysis

The data gathered were tabulated analyzed using descriptive and statistics, such as mean, frequency, and percentage to gain insights into the effect of Chat GPT on students' level of academic engagement, academic efficiency, and learner autonomy.

On the overall learning experience, the non-parametric Kruskal-Wallis H test was employed to compare the means of the three independent groups, ordinal in nature, and of small or unequal sample size. It disparities in student evaluates learning experiences that are statistically significant among the STEM, CSS, and GAS cohorts. A post-hoc test, the Dunn-Bonferroni-Tests was also used to find out which of the pairs differ.

Ethical Consideration

this process, То initiate the researchers sought permission from the School Principal to conduct the study from validation and pilot testing to data gathering among the Senior The School students. High mechanism of the study was disclosed participants through to the an informed consent. Confidentiality and anonymity were also ensured.

RESULTS AND DISCUSSION

The researchers captured the effects ChatGPT of utilizing on students' academic engagement, efficiency, autonomy, and overall learning experience. The following results were obtained from the respondents through survey

questionnaires.

The result (Table 1) demonstrates ChatGPT affected the how engagement motivation of and students towards their studies showed that the students use ChatGPT (47.95%)rarelv for homework purposes (36.99%) in English (39.73%), Science (17.81%) and Social Science (17.81%) subjects subjects because these require written outputs. Thereby, slightly increasing (43.84%) their academic engagement because it takes them less time (38.36%) completing their homework. Hence, the respondents likely recommend (49.32%) ChatGPT to other students.

Mohebi's (2024) review of 32 peer-reviewed articles from 2023 found that 75 percent of the studies emphasized its relevance to

Table 1. Academic Engagement

SOP 1. Student engagement

postsecondary education. Similarly, Muñoz et al. (2023) found а significant correlation between the level of experience of instructors and the listening skills and learning interest of their students. ChatGPT had а substantial effect on engagement and motivation, with exceptionally knowledgeable instructors playing a pivotal role in this regard. Hence, policy should integration encourage its into education.

However, the respondents are neutrally (34.35%) satisfied with the quality and accuracy of the content generated by ChatGPT. The low quality and accuracy satisfaction that agrees with the capacity of ChatGPT to generate inefficient content and facilitate personalized learning

Questions	Option	TOTAL (N=73)	%
Q1. How often do you use	A. Daily	2	2.74
Chat GPT for your academic	B. Weekly	21	28.77
tasks?	C. Monthly	9	12.33
	D. Rarely	35	47.95
	E. Never	6	8.22
Q2. For which academic	A. Homework	27	36.99
tasks do you use Chat GPT?	B. Research	24	32.88
	C. Writing assignments	14	19.18
	D. Other (please specify)	8	10.96
Q3. In which subject areas	A. English	29	39.73
do you use Chat GPT?	B. Sciences (Chemistry, Biology, etc.)	13	17.81
	C. Mathematics	10	13.70
	D. Social Science	13	17.81
	E. Research	7	9.59
Q4. Has the use of Chat GPT	A. Increased significantly	18	24.66
affected your engagement or	B. Increased slightly	32	43.84
interest in your studies?	C. No change	12	16.44
	D. Decreased slightly	8	10.96
	E. Decreased significantly	3	4.11
Q6. Would you recommend	A. Yes	36	49.32
Chat GPT to other students?	B. No	12	16.44
	C. Not sure	25	34.25
Q7. Have you noticed any	A. Significantly less time	17	23.29
changes in the time it takes	B. Slightly less time	28	38.36
to complete assignments	C. No change	13	17.81
since using Chat GPT?	D. Slightly more time	8	10.96
	E. Significantly more time	7	9.59
Q15. How satisfied are you	A. Very dissatisfied	16	21.92
with the quality and	B. Dissatisfied	11	15.07
accuracy of the content	C. Neutral	25	34.25
generated by Chat GPT?	D. Satisfied	18	24.66
	E. Very satisfied	3	4.11
Q19. How do you evaluate the reliability and credibility	A. I do not check the sources or references used by Chat GPT.	11	15.07
of the information provided by Chat GPT?	B. I check the sources or references used by Chat GPT but I do not verify them.	14	19.18

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C. I check and verify the sources or references used by Chat GPT	26	35.62
D. I check, verify, and compare the sources or references used by Chat GPT with other	14	19.18
sources. E. I check, verify, compare, and critique the sources or references used by Chat GPT with other sources	8	10.96

(Mohebi, 2024) leads the respondents to still check and verify the sources or references to check the reliability and validity of information provided by Chat GPT (Rose, 2023). Hence, this offers prospects for revolutionizing educational encounters between AI and human educators to facilitate dynamic, inclusive learning. Without significantly altering fundamental teaching methods, teachers must assess the capabilities of AI today and pinpoint potential avenues for improving student learning (Zhai et al., 2021).

Overall, the results illustrate the dynamic relationship between the utilization of technology and the cognitive, affective, and behavioral dimensions of student engagement (Yan, 2023; Hakiki et al., 2023; Yanowsky-Reyes, 2023).

SOP 2. Academic Efficiency

Academic efficiency is a complex concept that may encompass a range of underlying elements, including knowledge retention, comprehension, and application (Delahoz-Domínguez et al., 2021; De Witte & López-Torres, 2017; Alyahyan & Düştegör, 2020; Berhanu & Sabanci, 2020). Student responses (Table 2) to this construct demonstrate a substantial quantity of responses that suggest an improvement (63.01%) in their academic efficacy due to slightly less time (38.36%) it takes that helped them slightly improved their understanding (49.32%) of new concepts in English (42.47%) and Science (31.51%) subjects.

TOTAL

%

Table 2. Academic Efficiency

Question

C	L	(N=73)	
Q5. Have you noticed any	A. Improvement	46	63.01
changes in your academic	B. No change	27	36.99
performance since you started using Chat GPT?	C. Decline	1	1.37
Q7. Have you noticed any	A. Significantly less time	17	23.29
changes in the time it takes to	B. Slightly less time	28	38.36
complete assignments since	C. No change	13	17.81
using Chat GPT?	D. Slightly more time	8	10.96
	E. Significantly more time	7	9.59
Q8. Have you noticed any	A. Understanding significantly improved	10	13.70
changes in your understanding	B. Understanding slightly improved	36	49.32
of new concepts since using	C. No change	15	20.55
Chat GPT?	C. Understanding slightly worsened	9	12.33
	E. Understanding significantly worsened	3	4.11
Q9. In which subjects have you	A. Mathematics	7	9.59
noticed these changes?	B. Science	23	31.51
	C. English	31	42.47
	D. Social Studies	7	9.59
	E. Research	11	15.07
Q20. How do you integrate the content generated by Chat GPT	A. I copy and paste the content generated by Chat GPT without any changes	7	9.59
with your own ideas and knowledge?	B. I copy and paste the content generated by Chat GPT with minor changes	29	39.73
	C. I paraphrase the content generated by Chat GPT	17	23.29
	D. I paraphrase and synthesize the content generated by Chat GPT with my own ideas and knowledge.	15	20.55
	E. I use the content generated by Chat GPT as a reference or inspiration for my own original work.	5	6.85

Option

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Q21. How do you cite and acknowledge the sources used	A. I do not cite or acknowledge the sources used by Chat GPT	13	17.81
by Chat GPT?	B. I cite or acknowledge the sources used by Chat GPT inconsistently or incorrectly.	23	31.51
	C. I cite or acknowledge the sources used by Chat GPT consistently and correctly.	22	30.14
	D. I cite or acknowledge the sources used by Chat GPT and Chat GPT itself consistently and correctly.	9	12.33
	E. I cite or acknowledge the sources used by Chat GPT and Chat GPT itself and provide a rationale for using Chat GPT as a learning tool consistently and correctly.	6	8.22

In support of the data presented, Mahapatra's (2024) research revealed that ChatGPT significantly and impacted positively the students' academic writing skills. An additional pertinent article is "ChatGPT and Academic Research: A Review and Recommendations Based on Practical Examples," revealed that ChatGPT may be a useful instrument for generating initial concepts for academic scientific research (Rahman et al., 2023).

However, the respondents integrate the content generated by ChatGPT in their works by copying and pasting with minor changes (39.73%) only and do not cite or acknowledge the sources used by Chat GPT correctly (31.51%). The data shows that ChatGPT users face problems of academic integrity when it comes to literature synthesis, citations, problem statements, identifying research gaps, and data analysis (Yeo, 2023). To address academic integrity, students are advised to disclose any utilization of A.I. technology in their academic endeavors. It is imperative that they properly attribute any content (text, image, data, or otherwise) produced using an A.I. tool, whether it be paraphrased, quoted, or integrated into their own work (LibGuides: Scholarly Use of A.I. Tools: Cite A.I. Generated Text, n.d.). Furthermore, according to an article entitled "AI & Academic Integrity" published by the Center for Teaching Innovation, it is the responsibility of every instructor to deliberate on how they will furnish explicit directives for the utilization of

generative AI in scholarly assignments for each course they instruct. To reduce the likelihood of academic integrity violations, instructors must convey the course's generative AI policies explicitly (AI & Academic Center for Integrity Teaching Innovation, n.d.). Conversely, El-Seoud et al. (2023) stressed that ongoing assessment and responsible implementation is important regarding the impact of ChatGPT on academic achievement and learning outcomes.

When it to comes grading assignments generated by ChatGPT, academic staff have several options to address these issues. First, faculty members can provide students with precise guidance on how to organize their tasks. This can guarantee that the assignments are written in a way that is more organized and logical. Second, a rubric can be used by faculty members to assess the caliber of student work. This can make it more likely that the student's work and comprehension of the subject matter will be fairly evaluated. Lastly, to gauge a student's comprehension of the subject, academic staff members might employ both computerized and manual evaluation methods. By doing so, it may be possible to verify the student's actual comprehension level (Caulfield, 2023; Ellis & Ellis, 2023; 5 Assignment Design Ideas for ChatGPT in Computer Science Education | CodeGrade Blog, n.d.).

SOP 3. Learner Autonomy

Academic autonomy assesses the degree to which students navigate their own learning paths, demonstrate adaptability, and resolve challenges within the context of contemporary education (Rittschof, 2008; Saracho, 2020). Based on the results in Table 3, Chat GPT has increased the learning autonomy (32.88%) of students by decreasing their reliance on conventional resources such as textbooks (36.99%) although there is change in tutoring (38.36%). no Furthermore, the respondents monitor or regulate their own learning process when using Chat GPT frequently or deeply (43.84%).

Table 3. Learner Autonomy

Question	Option	TOTAL (N=73)	%
Q11. Has the use of Chat GPT	Significantly more independent	23	31.51
helped you become more	Slightly more independent	24	32.88
independent in your learning	No change	17	23.29
process?	Slightly less independent	4	5.48
-	Significantly less independent	5	6.85
Q12. Has the use of Chat GPT	Significantly decreased	12	16.44
decreased your dependence on	Slightly decreased	27	36.99
textbooks?	No change	20	27.40
	Slightly increased	10	13.70
	Significantly increased	4	5.48
Q13. Has the use of Chat GPT	Significantly decreased	7	9.59
decreased your dependence on	Slightly decreased	26	35.62
tutoring?	No change	28	38.36
3	Slightly increased	9	12.33
	Significantly increased	3	4.11
Q22. How do you monitor and	A. I do not monitor or regulate	17	23.29
regulate your own learning	my own learning process when		
process when using Chat GPT?	using Chat GPT		
	B. I monitor or regulate my own	7	9.59
	learning process when using		
	Chat GPT occasionally or		
	superficially.		
	C. I monitor or regulate my own	9	12.33
	learning process when using		
	Chat GPT regularly or		
	moderately.		
	D. I monitor or regulate my own	32	43.84
	learning process when using		
	Chat GPT frequently or deeply.		
	E. monitor or regulate my own	8	10.96
	learning process when using		
	Chat GPT and reflect on the		
	strengths and weaknesses of		
	using Chat GPT as a learning tool		
	frequently or deeply.		

Similarly, Hartley et al. (2024) examined the potential of ChatGPT as an evaluative case study tool for autonomous learning, with a specific focus on coding instruction. The research discovered that ChatGPT offered thorough direction and efficiently aided in the process of strategizing. However, it emphasized the significance of learners possessing metacognitive abilities to evaluate its constraints (Hartley et al., 2024). The function of ChatGPT in facilitating complex and personalized learning was the subject of another study (Alejandro Guadalupe Rincón Castillo et al., 2023), which suggested that it could potentially increase students' learning independence and streamline critical processes.

SOP 4: Overall Learning Outcomes

The questions concerning comprehensive learning encompass elements that impact every facet of a

student's academic journey, such as acquisition the of knowledge, development of skills, and academic achievement.

According to the H value of 43.03 (Table 4), it surpasses the critical value (5.991) for the degrees of freedom (df=2) at a specified level of significance (0.05), it suggests that at least two of the groups (STEM, CSS, GAS) exhibit a statistically significant disparity in the overall learning outcomes.

Since the result is significant, a post-hoc test was done to find out which of the pairs differ. Using the Dunn-Bonferroni-Tests of 5.35 (STEM & CSS), 5.07 (CSS & GAS), and 5.06 (STEM & GAS), the null hypothesis that there is no difference is rejected. Since the adjusted p-value is smaller than 0.05, it is assumed that the respective two groups differ.

Table	4.	Overall	Learning	Outcome
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Quest ions	OPTION S	ST EM	RA NK	C S	RAN K	GAS	RA NK	
1 4	D. Rarely B. Increase	1 5	27 20	8 5	12 20	26 22	2 5	
5	A. Improveme	12	10	6	15	28	1	
8	B. Understan ng slightly improved	7	14	6	15	23	4	
10	C Neutral	1	27	5	20	24	3	
14	B. Somewhat positive	6	15	2	26	18	7	
16	D. Increas∉ a little	4	23	4	23	12	10	
17	B. Hinders little	6	15	6	15	15	8	
18	B. Impedes a little	8	12	3	25	14	9	
23	C. I use Chat GPT and other learning strategies and resources equally.	1	27	0	30	21	6	
	Rank Mean Expecte d Value of Ranking s		19	15	20. 1 .5		5. 5	
	Df			2	1			

29.97
43.03

CONCLUSION

The study investigated the frequency and impact of Chat GPT on students' academic tasks, its impact engagement, time completion, on learning independence, and overall learning experiences among three learning groups.

- 1. ChatGPT, a popular academic tool, has a positive impact on engagement, student and academic efficiency reducing completion time and task improving comprehension in English and Science. However, academic integrity concerns arise as many students incorporate ChatGPT-generated material with minor modifications and neglect proper citation, highlighting the need for improved instruction on citation methods and ethical use of AI-generated materials.
- 2. ChatGPT positively impacts students' academic autonomy, reducing reliance on traditional study resources like textbooks. It allows self-regulation and of monitoring learning. However, it is important to note that ChatGPT functions as a supplement to these resources rather than a substitute.
- 3. There significant are differences in the impact of ChatGPT on learning outcomes across STEM, CSS, and GAS groups. These findings suggest the effectiveness that of ChatGPT may vary depending on the academic concentration of students and the subject Therefore, matter. educators researchers and should

consider these results when designing instructional approaches involving ChatGPT.

RECOMMENDATIONS

While positive impact of ChatGPT were found essential to the students' engagement, efficiency, autonomy and overall learning outcomes, the following points are for future consideration:

- 1. The study suggests that Chat GPT boost student can engagement, efficiency, writing skills and academic performance of the Grade 12 students. However, instructors should promote responsible usage by providing specialized sessions for enhancements of capabilities of literature synthesis and citation practices, problem statement formulation, research gaps identification, data analysis, and continuous monitoring.
- 2. It is recommended that the utilization of Chat GPT be aligned with learning objectives to encourage critical thinking, foster digital literacy, learning personalize experiences, and assess its impact on learner autonomy to aid students in their educational endeavors.
- 3. It is recommended to tailor the integration of ChatGPT to the specific needs of various academic groups, devise a range of instructional approaches, and undertake additional research to ascertain its effects on distinct student groups. This will contribute to improved learning outcomes in various academic fields. Further study involving equal grouping and larger samples in

a longer period is also recommended to further establish the result.

4. In response, the researchers will organize а seminar-workshop on "Empowering Students: Navigating Digital the Landscape with ChatGPT" centered around the appropriate use of ChatGPT, which will enhance students' learning. This seminar can address issues like how to use ChatGPT to improve learning engagement, how to critically assess responses generated by ChatGPT, how to integrate ChatGPT content ethically into academic work, and how to maximize ChatGPT's advantages while minimizing its potential drawbacks, like overreliance or plagiarism. Through the provision of all-encompassing advice and assistance, these seminars can enable students to fully utilize ChatGPT as an educational tool, resulting in improved learning outcomes and academic achievement.

Disclosure statement. The authors report that there are no competing interests to declare.

Declaration of Generative AI and AI-assisted technologies in the writing process. the Durina preparation of this work, the author) used ChatGPT as a guide in outlining research. After using the this tool/service, the authors reviewed and edited the content as needed and took full responsibility for the publication's content.

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Utilization of Interactive E-Learning Instructional Supplemental Material in TLE Cookery Exploratory Course

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ABSTRACT

Embracing technology is quite beneficial in schools. Research in e-learning, from its implementation, has been the subject of several reviews addressing issues related to technology, design, and use. The purpose of this study is to utilize and evaluate the developed interactive e-learning supplemental instructional material in the TLE Cookery Exploratory Course through Google Sites. Specifically, an evaluation of the utilized instructional material in terms of its content qualities, instructional qualities, technical qualities, and other findings (i.e., conceptual errors, factual and grammatical errors) was administered. errors, Developmental research design as the systematic study of designing, developing, and evaluating instructional technology that meet the criteria of consistency and effectiveness was utilized. Purposive sampling was utilized for selecting teacher-respondents and cluster-sampling for student respondents. The study revealed that the e-learning interactive supplemental material in Cookery Exploratory aids the student in improving their acquisition of learning. The result of the study, therefore, concludes that the designed learning resource can attain a specific learning outcome and enhance cognitive outcomes by engaging students in interactive learning materials.

Keywords: Cookery Exploratory Course, E-learning, Interactive learning, Supplemental Instructional Material

INTRODUCTION

The common key characteristic among different teaching materials is the ability to accentuate learning, regardless of its form and size. The teaching-learning significance of materials is to make lessons more interesting and to aid teachers in simplifying the expression of concepts. According Harsono to

© 2024 De Galicia, R. C. ISSN 3028-2179 (2015),the existence of teaching-learning materials is an indispensable element for being able to conduct teaching-learning activities. These materials, ranging from traditional textbooks to modern computer-generated resources, have been consistently shown to have a positive impact on student outcomes (Talbert & Mor-Avi, 2019; Munyakazi et al., 2022).

Department of Education (DepEd) Order No. 21, s. 2019, or the Policy Guidelines on the K to 12 Basic Education Program, has promulgated the use of different flexible learning styles and materials. The learning resources should be student-oriented to cater to the diverse needs of the learners. The development \mathbf{of} teaching-learning materials is regarded as one of the major factors that promote student learning, taking into account that it helps in the achievement of academic goals and objectives (Kapur, 2019).

The researcher believes that the learning resources should be on par with emerging technologies. Such technologies must be utilized for the development of different learning Visual representations, materials. audio-visual materials, and auditory materials are all around students on a daily basis, according to the study Buslieta (2013). This bv is particularly true for media such as television and the internet. It is quite imagine today's difficult to educational process without the use of various teaching and learning resources. In addition, the study by Bonk et al. (2016) stated that learning is becoming more self-directed and informal with the support of emerging technologies. A wide variety of online resources have promoted informal learning by allowing people to access information upon demand and only as needed. Differentiated instruction is a pedagogical-didactical approach that provides teachers with a starting point for addressing students' diverse learning needs (Smale-Jacobse et 2019). In general, aside from al., supporting learning, the current available technologies can assist teachers in the creation of different instruction forms of in the teaching-learning The process. modification of learning materials such as worksheets, videos, group activity instructions, and the like

allowed the teachers to attend to the individual needs of each learning style. With this, educators should embrace diversity and adjust their instruction in line with the diverse learning needs of students in their classrooms (Schleicher, 2016). Moreover, instructional materials extends bevond traditional classrooms, with educational institutions increasingly incorporating digital resources like teacher-created videos and instructional digital games to support learning (Nabayra, 2022). These innovative approaches not only motivate students but also cater to diverse learning styles, leading to improved academic achievement.

The Department of Education launched Order No. 12, S. 2020, or Basic Education Learning the Continuity Plan (BE-LCP) with the of delivering quality goal basic education amidst the public health emergency. Oliveira et al. (2021) examined the sudden shift to remote education during the COVID-19 pandemic, stressing the importance of understanding the educational process, tools utilized, and personal adjustments made by both students and teachers. Hence, adapting of e-learning interactive distance materials quickly emerged to cope with the challenges in education. According to the study of Sufyan et al. (2020), using the e-learning model is beneficial due to its flexibility to access learning resources and the opportunity to promote independent learning.

Recent restrictions brought about by the COVID-19 pandemic have created an era known to us as "The Normal". This New shift has compelled teachers to transition to online teaching, full-time moving away from traditional face-to-face methods (Al-Bargi, 2021). The transition to online education has become increasingly common, with continuous changes in teaching and

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learning methods (Dumitrescu, 2023). Teachers integrating technology into their classrooms aim to create a learner-centered environment that enhances student engagement (Gcabashe & Ndlovu, 2022). It is knowledge that common such restrictions have greatly affected the teaching-learning process, such that enrollees' ways of engaging themselves to learn have become quite challenging. This challenge undeniably accelerated the need for an online platform where teachers can carry out classes for learners whenever face-to-face classes are not allowed, provided that the learners have access to the internet. Despite these challenges, the pandemic has provided opportunities also for educators to explore new teaching tools, conduct research, and improve their teaching practices (Chew et al., 2023).

Aldiab et al. (2019) highlighted the significant worldwide shift towards the use of Learning Management Systems academic (LMSs) in institutions. These systems are integrated into the educational management system to enhance the overall teaching and learning process. In response thereto, DepEd submitted a circular aide-memoire dated July 01. 2020, and introduced its game-changer: modernized а instructional material through the release of the LMS or Learning Management System. LMS is an e-learning platform where the teacher utilize different interactive can learning materials online. LMS is a fundamental tool in modern education, enabling the delivery, tracking, and management of training and educational content (Guo & Lee, 2023). In addition, LMS not only benefits traditional teaching but also revolutionizes educational institutions. transforming the educational landscape (Reid, 2019).

Engagement in interactive content can likewise be a game-changer when it comes to e-learning. Interactive e-learning has garnered significant research interest, with studies emphasizing the importance of interactivity enhancing in the effectiveness and acceptance of e-learning platforms. Andersson et al. (2022) note that e-learning can accommodate different learning styles through interactive features like quizzes and cases. fostering engagement and reflective thinking that contribute knowledge to retention. This aligns with the findings of (Novia et al., 2022), who discuss the development of interactive e-modules based on mobile learning to cater to specific learner needs, emphasizing goal-oriented and focused learning experiences. Lolytasari Additionally, Nisa and (2022)stress the importance of of interactions various types in e-learning, including learner-content, learner-instructor, and interactions, learner-learner in achieving educational goals. In conclusion, these studies underscore the critical role of interactivity in interactive e-learning, emphasizing its positive impact on user satisfaction, engagement, knowledge retention, and overall learning experiences.

In connection with the adaptation of technology to education, DepEd released Memorandum OUA-OUT-080522-007 dated August 5, 2022, with the subject "Conduct of Televised Virtual In-Service Training for Teachers 2022". The program aimed impart latest to the technological innovation in instruction to the teachers, preparing the latter in classes by utilizing digital applications different that support student learning. In addition, the discussion thereafter ensured the teachers' upskilling, which is essential for the effective utilization of different digital applications in their respective classes. Batane and

© 2024 De Galicia, R. C. ISSN 3028-2179 Ngwako (2017) emphasized that providing teachers with digital skills and knowledge is now considered an component essential of anv teacher-training program in order to enable new teachers to satisfy the requirements educational of the twenty-first century.

In relation to what the integration of current technology has to offer in the field of education, the researcher developed interactive e-learning supplemental instructional material that is expected to support the student's learning needs. One of the best features of the interactive e-learning supplemental material is its accessibility. The learners can access the lesson even if they are not in the formal, four-walled classroom, thus making learning possible in various locations such as an airplane, train, or boat. In addition, the Internet has enabled the emergence of a global world where knowledge and information move at a fleeting pace, and flexibility and innovation are essential demands of the learning process (Pedro et al, 2011). The interactive e-learning instructional supplemental material facilitates learning dynamic activities considering that the researcher utilized Google Sites, a free website builder from Google, while different incorporating the applications such as (i)YouTube for educational video content, (ii) Canva for graphical learning content, (iii) Google Forms for different forms, surveys, and quizzes, and (iv) LUMI for interactive content.

applications different Finally, introduced by the Virtual In-Service training were utilized. These applications aim to develop e-learning instructional material to supplement currently available learning the materials by providing students with space wherein they will feel а inclusivity in their pursuit of knowledge. Embracing technology is

© 2024 De Galicia, R. C. ISSN 3028-2179 quite beneficial in schools. As time goes on, the use of technology will continue to increase, making learning more and more interactive.

The main purpose of this research was to utilize an interactive e-learning instructional material in the TLE Cookery Exploratory course. It sought to find answers to the following questions:

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

1.1 age;

1.2 sex;

1.3 number of years in teaching; and

1.4 teaching position?

2. What is the demographic profile of the student-respondents in terms of:

2.1 age;

2.2 sex; and

2.3 grade level?

3. Using the DepEd Prescribed Evaluation Form for Non-Print Materials, what is the assessment of teacher and student respondents on the utilized interactive e-learning instructional supplemental material in terms of:

3.1 Content Quality;

3.2 Instructional Quality;

3.3 Technical Quality; and

3.4 Other Findings (i.e., conceptual errors, factual errors, and grammatical errors)?

4. What are the scores of the student respondents before and after the utilization of the interactive e-learning supplemental material?

5. Is there a significant difference between the pre-test and post-test scores of the student-respondents?

METHODOLOGY

The utilized study а developmental method of research by incorporating Instructional the System Design (ISD). It is а systematic approach that involves the use of media for instructional systematic purposes and

instructional design procedures (Reiser, 2001). ISD models typically encompass stages such as analysis, design, development, evaluation, and management, based on instructional and learning theories, aiming to enhance the quality of teaching (Göksu et al., 2017). These models are designed to reflect contemporary environments and limitations (Moore, 2016).

Research Design

ADDIE model, which stands for Analyze, Design, Develop, Implement, and Evaluate, was utilized. It is a instructional well-known design approach widely used in various fields such as education, healthcare, and technology (Lee, 2024). This model provides a systematic process for developing effective learning experiences and instructional systems (Hasan & Ahmad, 2018). Additionally, Pribadi & Chung (2023) stress the significance of following a systematic instructional system design model involving analysis, design, development, implementation, and evaluation to ensure high-quality online learning programs. Thus, to meet the requirements of consistency and efficacy in instructional material, which serves as an empirical basis for interactive e-learning supplementary material.

Population and Sampling Technique

Purposive sampling for selecting respondents and teacher cluster sampling was used in selecting student respondents. For the purposive sampling method, this deliberately choosing involves participants based on specific criteria set by the researcher to ensure that the sample aligns closely with the aims and objectives of the research, thereby enhancing the study's rigor and the trustworthiness of the data and results (Campbell et al., 2020).

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Selection of participants was carefully This process involved conducted. careful consideration of with the particular characteristics or experiences that are essential for addressing the research questions effectively evaluating and the interactive e-learning material in Cookery Exploratory. Particularly, they are the experts, Head Teacher, Master Teachers, and experienced teachers from Junior High School Technology and Livelihood Education Department of Dasmariñas Integrated High School who are sufficiently experienced in developing instructional materials. The purpose of this data collection technique was to gather valid information needed for the acceptability of the developed interactive e-learning supplemental material.

For the cluster sampling method, the researcher divided the population of students by selecting one section consisting of 43 enrolled Grade 7 student participants of Dasmariñas Integrated High School.

Data Gathering

Research inputs were considered, they are (i) teachers' and and students' demographic profile, and (ii) Pre-assessment of the e-learning interactive supplemental material. The pre-assessment was the evaluation of the research panels and selected expert teachers of the tools (i.e. research Survey Questionnaire, Daily Lesson Log, Table of Specifications, Pre-Post test questionnaire, and the content of interactive e-learning material).

During the analyzing phase, the adaptation of technology in education was considered. Considering that the researcher handles the TLE Cookery Exploratory course, the integration of technology in the said subject matter was thought of; hence, the development and utilization of the interactive e-learning supplemental

material.

During the designing stage, the lesson plan in the DepEd prescribed K-12 Cookery Exploratory curriculum and learning module was guide considered. Integration of audio-visual elements, i.e. sound effects, illustrations and pictures, short videos, and the interactive elements. The following software applications were considered: (i) Google Sites for web page designing building, Youtube and (ii) for educational video content, (iii) Canva for illustrations and short video as well as sound effects, (iv) Google Forms for assessments, and other applications in the Google Workspace for streamline instruction and assessment, and (v) Lumi Education for creating and embedding interactive learning content.

During the developing stage, the pre-assessment of the research panels and selected expert teachers of the research instruments was taken into consideration. (i.e. Survey Questionnaire, Daily Lesson Log, Table of Specifications, Pre-Posttest questionnaire, and the content of interactive e-learning material). The aforementioned elements and applications considered during the designing phase were utilized. The Google Sites were used to manage the content of the lesson on TLE Cookerv Exploratory course while integrating the audio-visual elements of the different applications. Google Sites offer a versatile platform that can be effectively utilized in educational enhance settings to learning experiences. The benefits of incorporating Google Sites in learning environments are multifaceted. This versatility allows for a dynamic and learning environment. interactive Additionally, Google Sites, as part of Google Workspace for Education, provides a range of applications that can be integrated into the learning process, such as Google Docs, Slides, Sheets, Forms, and Drive, fostering collaborative work and enhancing student engagement (Moreno-Guerrero et al., 2020). Moreover, the use of Google Sites in education has been shown to make learning more interesting and enjoyable for students. It enables the provision of downloadable learning materials. offers а platform for students to upload and access assignments, and ensures that course materials remain accessible for review learning throughout the process (Permatasari 2022). et al., Furthermore, Google Sites can be leveraged to deliver instruction effectively various subjects, in education, including physical bv providing a safe virtual learning environment, ensuring accessibility to learning materials, and allowing students to learn at their own pace (Culajara, 2022).

Additionally, during the development stage, the DepEd Guidelines and Processes for Learning **Resources Management Development** System Assessment and Evaluation for non-print learning material were utilized as basis for developing the interactive learning material. The LRMDS guidelines served as the basis for the evaluation of the content instructional quality, quality, technical quality, and other findings (i.e., conceptual errors, factual errors, grammatical errors) and of the aforementioned interactive learning material.

During the implementation phase, the Cookery exploratory course throughout the quarter was delivered, using the developed interactive e-learning instructional supplemental material.

For the evaluation period, a pre-test consisting of forty (40) multiple-choice items covering the TLE Cookery Exploratory course was conducted. Subsequently, the interactive e-learning supplemental

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material in the TLE Cookery exploratory course for the selected Grade 7 students was employed. Following this, а post-test was administered. By utilizing pre-tests and post-tests, the effectiveness of the implemented instructional material could be measured. Studies have differences shown that between pre-test and post-test scores highlight the efficacy of educational programs and the importance of maintaining consistency in teaching practices and experiences (Rezaee et al., 2014). Additionally, pre-tests can help "prime" students by highlighting areas they need to focus on during the educational intervention, leading to improved post-test performance (Nalliah & Allareddy, 2014).

Figure 1. Procedure of the development and assessment of the interactive learning material.



Furthermore, the interactive e-learning instructional supplemental material in TLE Cookery Exploratory course was tried by the teacher and student evaluators. After the teacher and student evaluators had gonewent over and tested the said e-learning instructional supplemental material, the teacher and student respondents answered the survey form in line with DepEd Prescribed the Evaluation Form for Non-Print Materials. The

© 2024 De Galicia, R. C. ISSN 3028-2179 answers to the survey form were the bases for the evaluation as to the content quality, instructional quality, technical quality, and other findings (i.e., conceptual errors, factual errors, and grammatical errors). The survey results were taken into consideration and its suggestions were integrated for the improvement of Interactive E-learning instructional supplemental material in TLE Cookery exploratory course.

Following the evaluation phase, the revising step was given careful consideration. The outcomes of the pre-test and post-test will serve as the foundation for enhancing the content of the interactive learning material.

Data Analysis.

The following were used for the treatment of data in this study: (i) frequency, (ii) mean, (iii) ranking, and (iv) paired samples t-test.

Frequency was used to describe the profile of the teacher and student respondents (i.e. age, sex, and number of years in teaching).

Mean was used to describe the assessment of the teacher respondents on the developed instructional materials.

Ranking was done to orderly arrange from the top to bottom the result of survey evaluation questionnaire in terms of (i) content quality, (ii) instructional quality, (iii) technical quality, and (iv) other findings (i.e., conceptual errors, factual grammatical errors, and errors).

Paired Sample T-test was used to compare the means of two variables which are the pre-test and post-test result scores gained by the single group of student participants.

Ethical Considerations.
The following were taken into consideration: selection of respondents, their participation, the procedures and protocol of the study, a detailed description of the process, the duration of the study, and any potential risks to both respondents and researcher. Additionally, the benefits that the respondents or community might receive, the confidentiality of the information, the sharing of the results, and the respondents has the right to refuse in participation were considered.

RESULTS AND DISCUSSIONS

1. Data distribution of the Teacher-respondents' Demographic Profile

The demographic information below provides data that is necessary in determining if the individual in the study is a representative of the target population. This is to describe the teacher-respondent characteristics, such as age, sex, years of teaching, and years in service.

Table 1.1 Teacher-respondents' Demographic Profile in terms of Age

		Frequenc	Percentag
Age		У	е
	25 years and below	2	9.1
	26 years to 35 years	7	31.8
	36 years to 45 years	8	36.4
	46 years to 55 years	1	4.5
	56 years and above	4	18.2
	Total	22	100.0

indicates Table 1.1that individuals aged 36 to 45 years old, with a frequency of 8 representing 36.4 percent, belong to the most common age group among the teacher respondents. On the other hand, the lowest number of teacher-respondents with a frequency representing 4.5 percent, 1,of

© 2024 De Galicia, R. C. ISSN 3028-2179 belongs to the age group of 46 to 55 years old.

Table 1.2 Teacher-respondents' Demographic Profile in terms of Sex

Se	ex	Frequency	Percentage			
	Male	1	4.5			
	Female	21	95.5			
	Total	22	100.0			

Table 1.2 shows that females belong to the most common sex group among the teacher-respondents, with a frequency of 21 representing 95.5 percent. The male teacher-respondent had the lowest number, with a frequency of 1, representing 4.5 percent.

Table 1.3 Teacher-respondents' Demographic Profile in terms of Number in Years in Teaching

Years in Teaching	Frequenc y	Percentag e
10 years and below	10	45.5
11 years to 20 years	8	36.4
21 years to 30 years	2	9.1
30 years and above	2	9.1
Total	22	100.0

Table indicates 1.3 that individuals with 10 years and below, teaching experience are 10. in representing 45.4 percent, are the most common group among teacher respondents. On the other hand, individuals 21 to 30 years and older represent the lowest number of teacher respondents, with a frequency of 2 or 9.1 percent.

Table 1.4 Teacher-respondents' Demographic Profile in terms of Teaching Position

	Frequenc	Percentag
Teaching Position	у	e
Teacher 1	3	13.6
Teacher 2	6	27.3

Teacher 3	11	50.0
Master Teacher	2	9.1
_ 1		
Total	22	100.0

Table 1.4, in terms of teaching positions, it indicates that those in the Teacher III positions are the most common group of respondents, with a frequency of 11, representing 50.0 percent. On the other hand, Master Teacher I got the lowest number of teachers respondents, with a frequency of 2, representing 9.1 percent.

2. Data Distribution of the Student-respondents' Demographic Profile

The demographic information below provides data that is necessary in determining if the individual in the study is a representative of the target population. This is to describe the student-respondent characteristics, such as age, and sex.

Table 2.1 Student-respondents' Demographic Profile in terms of Age.

-	Frequenc	Percentag
Age	У	e
12 years old	25	58.1
13 years old	18	41.9
Total	43	100.0

Table 2.1 indicates that Grade Seven individuals aged 12 years old, with a frequency of 25 representing 58.1 percent, belong to the most common age group among the student respondents. On the other hand, Grade 7 individuals aged 13 had the lowest number of students responding, with a frequency of 18, representing 41.9 percent.

Table 2.2 Student-respondents Demographic Profile in terms of Sex

	Frequency	Percentage
Male	20	46.5
Female	23	53.5

© 2024 De Galicia, R. C. ISSN 3028-2179 Total 43 100.0

Table 2.2 shows that there aremorefemalesamongstudent-respondents,withafrequencyof23representing53.5percent.Themalestudent-respondentsarelesserinnumber,withafrequencyof20,representing46.5percent.

3. The Assessment of Teacher and Student-respondents on the Utilized Interactive E-learning Instructional Supplemental Material

The teacher and student respondents assessed the instructional material in terms of 3.1 Content Quality, 3.2 Instructional Quality, 3.3 Technical Quality, and 3.4 Other Findings (i.e., conceptual errors, factual errors, and grammatical errors).

Table 3.1 below displays the assessment of the teachers and students on the utilized interactive e-learning instructional supplemental material. Based on the teachers' "The responses, the indicators content relevant to real-life is situation" "The and content is consistent with topics/skills found in the DepEd Learning Competencies for the subject and grade/year level it was intended" received the highest mean score of 3.91 (very satisfactory) with a standard deviation of 0.294. Therefore, the e-learning interactive supplemental material was able to achieve expected its content objectives that are aligned with the DepEd K–12 curriculum for the Cookery Exploratory Course. It is also observed that the learning material relevant information is for seventh-grade level in a real-life situation. On the other hand, the indicator "The content is accurate" received the lowest mean score of 3.32 (satisfactory) with a standard deviation of .477. Therefore, the result

will serve as a basis for re-evaluation and revision of the cookery exploratory e-learning instructional material in terms of its content accuracy.

The students' responses for the content quality indicators "Concepts developed contribute to enrichment, reinforcement, or mastery of the learning identified objectives" "The content is relevant to and real-life situations" gained the highest mean score of 3.88 (very satisfactory) with a standard deviation of .324. Hence. the interactive e-learning material achieved its purpose of providing enrichment for the learners in the cookery exploration. It was also that the seventh-grade observed student-participants sought that the learning material information was relevant in a real-life situation. On the other hand, the indicator "The content is accurate" received the lowest mean score of 3.47 standard (satisfactory) with а deviation of .505. The utilization of interactive digital teaching materials has been shown to enhance student understanding by visualizing content clearly through images, videos, and thereby increasing animations. student interaction and interest (Maladerita et al., 2023). Moreover, the integration of interactive learning media in classrooms has been highlighted as essential for achieving desired learning outcomes (Mahardika et al., 2023). However, Giyanto et al. (2020) stressed that teaching materials that prioritize such characteristics as content accuracy and regular updates play a students' fostering kev role in creativity and enhancing their grasp of concepts. Continuous evaluation and refinement of digital learning resources are crucial to ensure their relevance and impact on learning outcomes (Song & Tombs, 2022). Hence, the result will serve as a basis for evaluating and revising the content of the cookery exploratory

© 2024 De Galicia, R. C. ISSN 3028-2179 e-learning instructional material.

Overall, the content quality based on the teacher responses gained a mean score of 3.73 (very satisfactory). Further. based on the student responses, the overall content quality of the instructional material received score of 3.72 а mean (verv satisfactory). Hence, the interactive e-learning material has met the standard quality in accordance with Learning DepEd's Resources Management Development and System guidelines and evaluations.

Table 3.2 below displays the assessment of the teachers and students who participated on the instructional quality of the interactive e-learning supplemental instructional Instructional material. quality the effectiveness pertains to of teaching methods, materials, and strategies employed in educational settings. Based on the teachers and students' responses, the indicator "Purpose of the material is well defined" received the highest mean result of 3.95 (very satisfactory) with a standard deviation of.213 from the teacher respondents and 3.88 (very satisfactory) with а standard deviation .324 of from the student-respondents. Henceforth, the respondents observed that the goal of the developed learning material was clearly specified. However, it was also observed that "Level of difficulty is appropriate for the intended target user" was of the lowest rank among the other indicators. It got a mean score of 3.32 (satisfactory) with a standard deviation of 4.77 from the teacher respondents and a mean score of 3.37 (satisfactory) with a standard deviation of.489 from the student respondents.

Table 3.1 Respondents' Assessment on the Utilized Interactive E-learning	z
Instructional Supplemental Material in terms of Content Quality	

Indicators	Teacher	Teacher		Studen	t		
multators	Mean	SD	VI	Mean	SD	VI	
1. The content is consistent with topics/skills found in the DepEd Learning Competencies for the subject and grade/year level it was intended.	3.91	.29 4	VS	3.81	.39 4	VS	
2. The concepts developed contribute to enrichment, reinforcement, or mastery of the identified learning objectives.	3.82	.39 5	VS	3.88	.32 4	VS	
3. The content is accurate.	3.32	.47 7	S	3.47	.50 5	S	
4. The content is up-to-date.	3.68	.47 7	VS	3.60	.49 5	VS	
5. The content is logically developed and organized.	3.64	.49 2	VS	3.70	.46 5	VS	
6. The content is free from cultural, gender, racial, or ethnic bias.	3.86	.35 1	VS	3.81	.39 4	VS	
7. The content stimulates and promotes critical thinking.	3.73	.45 6	VS	3.63	.48 9	VS	
8. The content is relevant to real-life situations.	3.91	.29 4	VS	3.88	.32 4	VS	
9. The language used (including vocabulary) is appropriate to the target user level.	3.59	.50 3	VS	3.60	.49 5	VS	
10. The content promotes positive value that support formative growth.	3.82	.39 5	VS	3.79	.41 2	VS	
Overall	3.73	.16 1	VS	3.72	.17 4	VS	

Legend: 1.0-1.49 (Unsatisfactory); 1.50-2.49 (Poor); 2.50-3.49 (Satisfactory); 3.50-4.00 (Very satisfactory)

Table 3.2 Respondents' Assessment on the Utilized Interactive E-learning Instructional Supplemental Material in terms of Instructional Quality.

Indicators	Teacher	r		Student		
Indicators	Mean	SD	VI	Mean	SD	VI
1. Purpose of the material is well defined	3.95	.21	VS	3.88	.32	VS
-		3			4	
2. Materials achieves its defined purpose	3.68	.47	VS	3.81	.39	VS
		7			4	
3. Learning objectives are clearly stated and measurable	3.86	.35	VS	3.77	.42	VS
		1			7	
4. Level of difficulty is appropriate for the intended target user.	3.32	.47	S	3.37	.48	VS
		7			9	
5. Graphics/ color/ sounds are used for appropriate instructional	3.73	.45	VS	3.77	.42	VS
reasons		6			7	
6. Materials is enjoyable, stimulating, challenging, and engaging	3.77	.42	VS	3.86	.35	VS
		9			1	
7. Materials effectively stimulates creativity of target user	3.77	.42	VS	3.77	.48	VS
		9			0	
8. Feedback on target user's responses is effectively employed	3.50	.51	VS	3.53	.55	VS
		2			0	
9.Target user can control the rate and sequence of presentation	3.73	.45	VS	3.74	.44	VS
and review		6			1	
10. Instruction is integrated with target user's previous	3.50	.51	VS	3.51	.50	VS
experience		2			6	
Overall	3.68	.12	VS	3.70	.13	VS
		6			7	

Legend: 1.0-1.49 (Unsatisfactory); 1.50-2.49 (Poor); 2.50-3.49 (Satisfactory); 3.50-4.00 (Very Satisfactory)

The advantages of utilizing interactive learning material in terms

of its instructional quality are such as being simple, clear, vivid, visual, convenient, flexible, and fast (Li,

2017). According to Sriphon (2022), one significant advantage of interactive online learning is the flexibility it offers, allowing students to access materials from anywhere and at any time. This flexibility not only saves time but also reduces costs associated with traditional learning methods, such as transportation and accommodation expenses. Additionally, in the study of Zaitun et al. (2021), online learning promotes independent learning, modernizes absence of direct interaction may lead challenges to in promoting meaningful experiences learning (Davidovitch & Wadmany, 2021).

The result supports the study of Utafumi and Cahyono (2020), which found that in the context of specific analyzing subjects. the level of learning difficulties in e-learning environments has revealed the importance of aligning the difficulty of

education concepts, and enhances interaction between teachers and students.

However. despite these advantages, there are also drawbacks to interactive online learning. In the study of Unger et al., (2022) one major weakness is the lack of face-to-face interaction between students and instructors, which can hinder effective communication and engagement. The teaching materials with students' needs and capabilities. Therefore,

based on the statistical result, the level of complexity of the learning material should be reviewed and The re-evaluated for revision. interactive learning material in terms of its instructional quality achieved an overall average score of 3.68, which is considered very satisfactory by the teacher respondents and 3.70 (very satisfactory) by the student respondents.

Table 3	3.3	Respondents'	Assessment	on	the	Utilized	Interactive	E-learning
Instruc	etior	nal Supplement	al Material in	ı te	rms	of Techni	cal Quality	
						Teacher	Stude	nt

Indicators			Student			
Indicators	Mean	SD	VI	Mean	SD	VI
1. Audio enhances understanding of the concept.	3.64	.49	VS	3.72	.45	VS
		2			4	
2. Speech and narration (correct pacing, intonation, and	3.36	.49	S	3.51	.55	VS
pronunciation) are clear and can be easily understood.		2			1	
3. There is complete synchronization of audio with the visuals, if	3.64	.49	VS	3.60	.49	VS
any.		2			5	
4. Music and sound effects are appropriate and effective for	3.82	.39	VS	3.79	.41	VS
instructional purposes.		5			2	
5. Screen displays (text) are uncluttered, easy to read, and	3.77	.42	VS	3.74	.44	VS
aesthetically pleasing.		9			1	
6. Visual presentations (non-text) are clear and easy to interpret.	3.91	.29	VS	3.74	.44	VS
		4			1	
7. Visuals sustain interest and do not distract user's attention.	3.59	.50	VS	3.58	.54	VS
		3			5	
8. Visuals provide accurate representation of the concept	3.68	.47	VS	3.60	.49	VS
discussed.		7			5	
9. The user support materials (if any) are effective.	3.55	.51	VS	3.58	.54	VS
		0			5	

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10. The design allows the target user to navigate freely through	3.73	.45	VS	3.65	.48	VS
the material.		6			2	
11. The material can easily and independently be used.	3.55	.51	VS	3.56	.50	VS
		0			2	
12. The material will run minimum system requirements.	3.32	.47	S	3.49	.55	S
		7			1	
13. The program is free from technical problems.	3.23	.42	S	3.26	.58	S
		9			1	
Overall	3.60	.15	VS	3.60	.18	VS
		8			1	

Legend: 1.0-1.49 (Unsatisfactory); 1.50-2.49 (Poor); 2.50-3.49 (Satisfactory); 3.50-4.00 (Very Satisfactory).

Table 3.3 presents the statistical findings of the teachers and students who participated in evaluating the technical quality of the interactive e-learning supplemental instructional material.

It is observed that the indicator "Visual presentations (non-text) are clear and easy to interpret" was very satisfactory, with a mean score of 3.91 and a standard deviation of.294 based on the evaluation of

(2020),which states that the integration of images and sound effects in learning materials has been shown to have significant impacts on learning outcomes. Visual and auditory elements in educational resources can enhance comprehension and engagement. Learning for videos, instance, combine sound, images, motion, and text deliver messages to more effectively.

Indicator "The program is free from technical problems" received the lowest mean score of 3.23 (satisfactory) with а standard deviation of 0.429 from the teacher respondents and 3.26 (satisfactory) with a standard deviation of 0.581 from the student-respondents, respectively. It is shown that the e-learning material faces technical difficulties since the learning material needs an internet connection, one of the problems faced by the learners is an unstable internet connection.

teacher-respondents. Subsequently, the student respondents observed that the indicator "Music and sound effects are appropriate and effective for instructional purposes" got a very satisfactory rating with a mean score of 3.79 and a standard deviation of.412. The result shows that interactive material has been shown to have significance by incorporating visual presentation and other effects to enhance student learning. This result supports the study of Awrus S. et al.

Hence, the result can be utilized for another study to create another learning material that could aid the with fewer technical learners difficulties. The study of Thambirajah et al. (2022) also faced the same technical difficulties in terms of the implementation "online" of the learning approach due to internet coverage problems.

Overall, in terms of technical quality, the interactive e-learning material gained a mean score of 3.60 (very satisfactory) from the teacher and student respondents.

Table 3.4 shows that indicators of conceptual errors, factual errors, and other errors (i.e., computational errors, obsolete information, errors in the visual, etc.) gained the highest mean score of 4.00 (very satisfactory) from teacher respondents, while student respondents gave a mean score of 3.98 (very satisfactory) for the indicator's factual errors and other

Conversely, indicators errors. of grammatical or typographical errors got the lowest mean score of 3.82 (very satisfactory) from the teacher respondents and a mean score of 3.77 (verv satisfactory) from the student-respondents. It is observed by the participants that some parts of the content have minor typographical "kitchen" errors (i.e., instead of Overall, the interactive kitchen). e-learning supplemental material in terms of its other findings received a mean score of 3.95 (very satisfactory) from teacher respondents and a 3.91 satisfactory) from (very student respondents.

Table 3.4 Respondents' AssessmentoftheUtilizedInteractiveE-learningInstructionalSupplementalMaterial in terms ofOtherFindings

	Teache	r		Student			
	Mean	SD	VI	Mea	SD	VI	
				n			
Conceptual	4.00	.000	V	3.9	.25	VS	
errors			S	3	8		
Factual	4.00	.000	V	3.9	.15	VS	
errors			S	8	3		
Grammatic	3.82	.394	V	3.7	.42	VS	
al and/or			S	7	7		
typographic							
al errors							
Other	4.00	.000	V	3.9	.15	VS	
errors (i.e.			S	8	3		
computatio							
nal errors,							
obsolete							
information							
, errors in							
the visual,							
etc.							
Overall	3.95	.099		3.9	.12		

Legend: 1.0-1.49 (Unsatisfactory); 1.50-2.49 (Poor); 2.50-3.49 (Satisfactory); 3.50-4.00 (Very Satisfactory).

4. Results of the Student-respondents Before and After the Utilization of the Interactive E-learning Supplemental Material

As part of the treatment, the student-participants were given a pre-test and post-test to assess the

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Table	4.	Pre-test	and	Post-test
Results	5			

Be	Before After		Level of	
F	%	F	%	Proficiency
10	23.3	-	-	Beginning (74)
7	16.3	-	-	Developing (75-79)
18	41.9	2	4.7	Approachin g
				Proficiency (80-84)
8	18.6	7	16. 3	Proficient
-	-	34	79. 1	Advanced (90-100)
43	100	43	100	/

Table 4 indicates that 8 student participants achieved a proficient level (85-89) before the utilization of the interactive e-learning supplemental material. The findings show that out of the total sample size of 43 student participants, only 8 individuals were able to demonstrate their proficiency and core understanding in the Cookerv Exploratory Course. 10 student participants indicates that the level of proficiency was just starting to learn and can be described at the beginning level (below 74). 7 were identified as being at the minimum in fundamental knowledge and core understanding and can be described at the developing level (75-79). Moreover, 18 students, which is the highest among participants, demonstrated all developed knowledge. core understanding, and skills (80-84), as described in the data result.

Conversely, after the utilization of the interactive e-learning supplemental material, 34 student-participants made it to the advanced level (90–100). This shows that the students were able to attain a level of showcasing their knowledge and skills on the topic that goes beyond basic terminology and definitions. Meanwhile, 2 student-participants made it to the approaching proficiency level (80–84) and 7 made it to the proficient level (85–89).

It is shown in the post-test result that there is a significant increase in terms of proficiency development of the student-participants. Hence, the result indicates that the designed learning material can enhance cognitive outcomes by engaging interactive students in learning materials. The result supports the study of Suherman et al., (2022) that the use of e-learning media, such as e-books and multimedia animations, been associated has with improvements students' in understanding, mastery of concepts, and problem-solving skills.

5. Significant difference between the pre-test and post-test scores of the student respondents

Table5.SignificantDifferenceBetween the Pre-test and Post-testScores

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	<u>df</u>	Sig. (2- tailed)
				Lower	Upper			
POST TEST - PRE TEST	10.46 5	3.832	.584	9.286	11.644	17.90 9	42	.000

Table 5 shows that the Sig. (2-tailed) value is 0.000. This represents the two-sided p-value that corresponds to a t value of 17.909 with 42 degrees of freedom. Since the p-value of the test (0.000) is less than 0.05, the null hypothesis is rejected, and the alternative hypothesis is accepted. Therefore, there is а significant difference between the pre-test and post-test scores of the student respondents.

The research findings show that the e-learning interactive © 2024 De Galicia, R. C. ISSN 3028-2179

supplemental material in Cookery Exploratory aids the student in improving their acquisition of learning. It is essential to assess the extent of learning challenges in online learning settings, ensuring that the complexity of instructional materials matches the needs and abilities of students. The result of the study indicates that the designed learning resource can attain a specific learning enhance and cognitive outcome outcomes by engaging students in interactive learning materials. The result supports the study of Sutini C. al. (2021), which found that et interactive e-learning material can increase active student participation and enhance the quality of learning, hence improving learning outcomes. Interactive learning materials have been widely recognized as a valuable tool to enhance the learning experience across various educational settings. According to the study of Kaewunruen (2019), the incorporation of interactive technology in teaching practices has been shown to enhance student engagement, intrinsic overall motivation, and learning experience. In addition, to the study of Chan et al., (2019), studies have indicated that incorporating e-learning interactions through learning analytics data can enhance academic performance and improve students' learning outcomes. Also, Hill (2019) emphasized that online interactive teaching tools have been found enhance higher-order to thinking skills, communication, and problem-solving competencies.

Overall, the evidence suggests that e-learning materials play a crucial role in enhancing teaching and learning behaviors, leading to improved student performance and engagement. By leveraging innovative technologies and pedagogical approaches, educators can create interactive and engaging e-learning materials that cater to diverse learning needs and contribute to more effective learning outcomes.

CONCLUSIONS

The null hypothesis is rejected, and the alternative hypothesis is Therefore, there is accepted. ิล significant difference between the pre-test and post-test scores of the student respondents. The research findings show that the e-learning interactive supplemental material in Cookery Exploratory aids the student in improving their acquisition of learning. It is essential to assess the extent of learning challenges in online learning settings, ensuring that the complexity of instructional materials matches the needs and abilities of students. The result of the study indicates that the designed learning resource can attain a specific learning and enhance cognitive outcome outcomes by engaging students in interactive learning materials.

RECOMMENDATIONS

Based on the research findings, the researcher recommends the following:

- 1. The results of the research may serve as the foundation for reassessing the content of the interactive e-learning instructional supplemental material in the Cookery Exploratory course.
- 2. It is shown that the e-learning material faces technical difficulties since it needs an internet connection. One of the problems faced by the learners unstable internet is an connection. Hence, the result can be utilized for another study to create another learning material that the learners can access offline.

3. Further studies may be suggested to conduct similar research for other grade levels and other subject areas.

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Project NICE: A Remediation Digital Kit for Improving the least-mastered Mathematics Skills of Grade II Learners

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ABSTRACT

This quasi-experimental study investigates the effectiveness of Project Numeracy through Interactive and Creative Electronic (NICE) as an intervention tool for enhancing the least-mastered mathematics skills of Grade II learners. Using a pretest and posttest design, 42 participants were selected from 515 Grade 2 learners using non-probability purposive sampling. The researcher employed simple percentage, weighted mean, and T-test of mean difference for the data analysis. 2nd periodic test results identified these three least mastered mathematical skills: (a.) addition and subtraction within 1,000; (b.) reading and writing large numbers; and (c) solving word problems involving money. Pretest results showed addition and subtraction within 1000 as the least mastered skills, averaging 48.35 MPS. Posttest results demonstrated significant improvement, indicating Project NICE's as an effective remediation tool. The data revealed significant differences in the least mastered mathematics skills between the pretest and posttest results. Thus, this study confirms Project NICE as an effective remediation tool for improving the least-mastered mathematics skills of Grade 2 learners.

Keywords: Interactive remediation tool, least-mastered skills, mathematics skills, Project NICE

INTRODUCTION

Many learners perceive as a complex and mathematics challenging subject, resulting in low academic performance and failure to accomplish learning competencies in mathematics. The academic standing of mathematics among learners is notably low, as indicated by reports from the Department of Education (DepEd, 2019). Notably, the

© 2024 Batan, M. F. ISSN 3028-2179 Philippines ranked sixth lowest in mathematics according to the Program for International Student Assessment (PISA) 2022, with only 16% of Filipino learners demonstrating proficiency in the subject (OECD, 2023). This means that 84% of Filipino learners who took the test do not have sufficient mathematical skills. (OECD,2023)

According to Kurmaniak (2021), the set of skills required for a learner to execute mathematical operations is as numeracy. It entails known recognizing and understanding the mathematical processes that exist in the world. Learners' proficiency with number matching, familiarity, and critical thinking increases as they progress. These skills allow learners to solve difficulties and make educated decisions using arithmetic. In addition, Digital remediation tools have received a lot of attention as a way to improve learning outcomes globally. These tools use technology to deliver dynamic and personalized learning experiences that are tailored to the specific needs of the learners. Moreover, incorporating interactive technology into a play-based learning environment can also help learners succeed and have positive experiences 2018). Several pieces (Miller, of research have shown that digital remediation tools improve learners' academic performance and engagement (Smith et al., 2018; Johnson and Smith, 2020). Furthermore, meta-analysis а conducted by Johnson and Smith (2019) revealed positive effects of digital remediation on mathematics achievement. Overall, the research demonstrates that digital kit has the potential to significantly improve the least mastered skills on a global scale.

In the Philippines context, the quality of teaching is determined not only by the teacher's knowledge and skills but also by their innovation and creativity. Every teacher must continually innovate intervention materials and strategies to stay abreast of the learners needs and eventually enhance the quality of the teaching-learning process. Understanding the significance of implementing innovations in students' learning can lead to a well-delivered lesson for most learners

(Impas, 2021). In line with this, the Department of Education recommends materials to enhance learners' performance in science and mathematics subject this material is called, Strategic Intervention Material (SIM). According to Sinco et. al. (2020) on their research entitled, Strategic Intervention Materials: A Tool in Improving Students Academic Performance, the results validated the effectiveness of remediation with the use of Strategic Intervention Materials (SIMs) in uplifting the learning accomplishments of learners.

However, despite the efforts of the Department of Education, there is still a challenge. Based on PISA 2022 results, significant challenges exist within Philippine classrooms, with a substantial percentage of students reporting difficulties working well in lessons and listening to teachers (OECD, 2023). Addressing these challenges aligns with the mandate outlined in Republic Act No. 10533, which emphasizes the development and utilization of locally produced teaching materials to cater to the diverse needs of learners.

Moreover, In the Second quarter math results the selected Grade 2 students in Pasig City revealed that (a) 395 (49%) out of 555 learners, can't solved routine and non-routine problems involving subtraction of whole numbers, including money, with minimums up to 1000 using appropriate problem-solving strategies and tools. (M2NS-IIc-34.2), and (b) 413 (34%) out of 555 learners can't Solve multi-step routine and involving non-routine problems addition and subtraction of 2- to 3-digit numbers, including money, problem-solving using appropriate strategies and tools. (M2NS-IIe-34.4). The second quarter results found out Grade 2 learners that most of the had a hard time answering the routine and non-routine problems. This highlighted the significant gaps

in essential skills acquisition among learners. These skills encompass to a broad range, mastering addition and subtraction within 1,000, reading and writing large numbers, comparing three-digit numbers, solving word problems involving money (Gill, 2024, Pellissier, 2023). Magtolis, (2023) underscores importance the of numeracy, which encompasses learners' ability to perform mathematical operations and comprehend mathematical processes.

Though the benefits of incorporating digital remediation tools improving mathematics in achievement and learners performance have been acknowledged, there is still a lack of empirical research examining the effects of using digital remediation tools in other subjects, and there is a gap focusing on the mathematical conceptual understanding. This study investigates the research gap by delving deeper into the efficacy of a researcher-made innovation called Project NICE: A Remediation Digital Kit for Improving the Least Mastered Skills of Grade 2 Mathematics Learners.

Therefore, this study aims to explore the effectiveness of Project NICE as a new remediation digital kit enhancing the for least-mastered skills of mathematics Grade Π learners. The results of this research will not only provide insights for educators and school administrators but also contribute to ongoing efforts to improve mathematics education in the Philippines.

RESEARCH PROBLEMS/OBJECTIVES

This study generally aims to determine the effectiveness of Project NICE in improving the least mastered skills of the Grade II learners in Mathematics in Pasig City. Specifically, this study seeks to answer the following questions:

1. What are the least mastered mathematics skills of Grade II Learners?

2. How Project NICE as the remediation digital kit can improve the least mastered mathematics skills of Grade II learners?

HYPOTHESIS

1. Null Hypothesis (Ho):

1.1. There is no significant difference in the learner's achievements between the pretest and the posttest.

2. Alternative Hypothesis (Ha)

2.1. There is a significant difference in the learner's achievements between the pretest and the posttest.

SIGNIFICANCE OF THE STUDY

This study is crucial because it focuses on the specific weaknesses, particularly the least mastered skills, among grade II learners, which can hinder their academic achievement. By targeting these areas, it aims to understand how Project NICE can assist learners struggling with math. Additionally, the results of this study will offer empirical evidence of the effectiveness of utilizing this researcher-made innovation, Project NICE: A Remediation Digital Kit, in bridging skill gaps and improving least mastered mathematics skills among young learners.

The results may inform educators, curriculum designers, and policymakers about the potential benefits of incorporating Project NICE, a teacher-made innovation, into classroom instructions to support struggling Grade II learners.

THEORETICAL FRAMEWORK

Constructivism is a learning

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theory that emphasizes the active construction of knowledge by learners through their own experiences and interactions with the environment. According to constructivism, learners actively build their understanding of concepts and develop their own mental models through exploration, problem-solving, and reflection. In the context of mathematics education, constructivism can be applied by providing opportunities for students to engage in hands-on activities, problem-solving tasks, and collaborative learning experiences. In proximal addition. the zone of development (ZPD) introduced by (1980)Vygotsky refers to the difference between what a learner can do without help and what they can achieve with guidance and encouragement from a skilled partner.

Project NICE is a researcher-made technology-based remediation tool aimed enhancing the at least-mastered mathematics skills of Grade 2 learners through personalized learning. Aligned with Proximal Vygotsky's Zone Development (ZPD), teachers play a significant role in guiding learners to improve their least-mastered skills. Incorporating scaffolding techniques, learners engage in Project NICE remediation mathematics activities with the guidance of their teachers. The implementation of Project NICE as a remediation digital kit facilitates improvement in the least-mastered mathematics skills of the learners. Vygotsky (1980) referred to this learning phase as the "Zone of Proximal Development".



REVIEW OF RELATED LITERATURE AND STUDIES

This chapter presents the relevant literature and studies that the researcher considered in strengthening the importance of the present study. It also presents the synthesis of the art to fully understand the research for better understanding of the study.

Mathematics Education in Early Grades and the Project NICE Young learners' early experiences offer numerous learning opportunities that create the framework for numeracy (Pisaras. 2020). Before formal fundamental education begins, numeracy concepts and abilities arise naturally. It is critical to promote the development of numeracy skills in young learners and find the most effective learning interventions, as these skills are critical to their future success. In addition, Pisaras also added that, upon entering school, children already possess fundamental numeracy skills, with the variance lying in the manner and pace of information acquisition. Those who school arrive with basic attend numeracy skills, which serve as the foundation for their eventual mathematical accomplishments and mastery.

Magtolis (2023 stated in his research entitled, Effectiveness of Project Renrich in Improving the Numeracy Skills of Grade 5 Learners. Numeracy skills are very important for later academic success. This

includes achievement not only in mathematics but also in other subjects such as science and reading. In addition, learning basic numeracy creates the necessary foundation for future mathematical concepts and possible career opportunities.

Furthermore, developing a strong foundation in basic skills such as counting, comparing, and classifying, thinking skills, and other skills will create a necessary foundation for future math skills and success later in school. These skills are important and cannot be skipped. The learners master the first should basic numeracy skills before they can learn more complex math lessons. Developing these math skills will help teachers, parents, and administrators prepare the learners for a strong academic career (Ghul, 2019)

stated that mathematics This education in the early grades plays a crucial role in developing students' foundational skills and shaping their attitudes towards the subject. Research has shown that early intervention and targeted support can improve mathematics significantly achievement among young learners (Fuchs et al., 2018). However, some Grade II students may struggle with specific mathematical concepts. leading to gaps in their understanding and hindering their progress. This also leads to a lack of mastery in mathematical competencies. Using Project NICE as a remediation digital kit will help the learners relearn all the least-mastered competencies in mathematics, which will help the learners improve their least-mastered skills and increase their performance in mathematics.

The Strategic Intervention Materials (SIM) and the Project NICE

The Program for International Student Assessment (PISA) 2022

© 2024 Batan, M. F. ISSN 3028-2179 reported that the Philippines ranked lowest in mathematics. sixth In addition, based on the PISA test results, only 16% of Filipino students attained at least the basic or baseline level of proficiency in mathematics. This means that 84% of Filipino students who took the test do not have sufficient mathematical skills. In addition, as stated on the Support and discipline in mathematics lessons, about 26% of students in the Philippines reported that they cannot work well in most or all lessons (OECD average: 23%) (OECD, 2023)

Furthermore, the Department of Education has issued Department Order 08.S.2015, or the Classroom Assessment Policy Guidelines. The policy guidelines stated that there must be sufficient and appropriate instructional intervention through remediation and extra lessons from the subject teacher who receives a grade lower than 75 in any subject in any quarter. The aim of this program is to ensure all the learners are fully equipped before the summative tests and prevent academic underachievement by giving the education adequate learners and inclusive emphasizing education. following the mandate that no student will be left behind as appropriate instructions and interventions are provided to address individual requirements.

Moreover, the Department of Education (DepEd) conducted а workshop training on Strategic Intervention Materials (SIM). This training workshop opens the door for all teachers to develop and utilize SIM in their classrooms. The aim of this workshop is to remediate the learners to increase the academic accomplishment low-performing of students by addressing the individual's needs through instructions and interventions. In addition, the implementation of an intervention that will help the

learners become competent, active, and responsible citizens is included in the proposed MATATAG curriculum launched in January 2023.

In line with the stated topic, SIM, Impas, (2021) stated in his study that interactive strategic intervention materials effective are an instructional tool to supplement the modules to improve the performance of the Grade IV pupils in English. According to Rosal, et al. (2022), SIM as a remediation tool has a significant impact on the learner's performance in general chemistry. Furthermore, according to Bunagan, (2012), SIM, or strategic intervention materials, are meant to re-teach the concepts and skills (least mastered skills). Bunagan also emphasizes that the SIM is the materials that the learners use in order to master the competency-based skills that they were not able to during regular classroom develop teaching. These studies also showed that learners who are exposed to intervention materials have a better chance of increasing or enhancing their performance in the subject. According to De Jesus. (2019)revealed in his study that the use of strategic intervention SIM, or materials, has a significant effect on the learner's performance on the least-mastered topics in science Grade 9. Bastida and Bastida, (2022) emphasized that the utilization of SIM can help the learners increase their learning outcomes compared to using conventional or traditional ways of teaching.

On the other hand, Project NICE is a researcher-made new remediation tool. The Strategic Interactive Materials and Project NICE have similarities in terms of reteaching and improving lessons the least-mastered skills of the learners. Project NICE integrates the use of digital remediation to improve the least-mastered skills of the learners and create a personalized learning

© 2024 Batan, M. F. ISSN 3028-2179 environment.

Several studies have investigated the effectiveness of digital remediation tools in improving students' mathematics skills. For instance, a study by Anderson et al. (2017) found that learners who used a digital remediation tool showed significant improvement in mathematical reasoning compared to those who received traditional instruction. Similarly, a meta-analysis conducted Johnson and Smith (2019)by revealed positive effects of digital interventions on mathematics achievement. In addition, in recent years, digital remediation tools have received a lot of attention as a way to improve learning outcomes across a wide range of courses. These tools use technology to deliver dynamic and personalized learning experiences that are tailored to the specific needs of pupils. Several studies have shown that digital remedial tools improve students' academic performance and engagement (Smith et al., 2018; Johnson and Smith, 2020).

Personalized learning approaches have been recognized as effective address strategies to individual learning needs and promote student engagement. Digital remediation tools, such as Project NICE, offer opportunities for personalized learning by tailoring content and activities to students' specific areas of difficulty (Clark et al., 2019). This individualized approach has been enhance students' shown to motivation, self-efficacy, and overall learning outcomes.

This new innovation introduced by the researcher, Project NICE, the Learning Numeracy through Interactive and Creative Electronic Presentations, refers to a teaching aid introduced into the teaching methods to stimulate the activity of the learners and thereby increase their level of understanding. It tends to

reteach lessons that are not clear to learners and help them gain mastery of the skills. The objectives of Project NICE are to (a) provide remediation to learners, with a focus on the least mastered competencies; (b) include learners in a variety of engaging tasks; and (c) capture learners' interest by allowing them to access and manipulate resources through a laptop. (d) Motivate learners to accomplish more, think more, and study more.

Project NICE is an electronic interactive presentation meant to re-teach concepts and topics that are considered least learned by the learners in mathematics. It is a teaching-learning tool for the benefit of both teachers and learners. As stated by Impas (2021), the objectives of interactive materials are to pique impart students' curiosity, mathematical knowledge and abilities, and enable them to apply what they have learned to practical contexts. It is thought that Project NICE is a useful strategic teaching tool that helps educators accomplish the objectives of least-mastered lessons. In conclusion, the review of related literature highlights the importance of digital remediation tools in education, particularly in the context of mathematics education for young learners. Existing research indicates a positive correlation between digital interventions and improved achievement mathematics among students. highlighting the least-mastered skills.

In conclusions, scholars advocate for further exploration, particularly in employing strategic interactive materials and integrating information and communication technology (ICT) various subject across areas, mathematics. including In this context, examining new innovations such as Project NICE will align with the needs and behaviors of current learners. This Project NICE aimed to

© 2024 Batan, M. F. ISSN 3028-2179 improve the least-mastered skills of Grade II learners. This initiative aligns with the objective of nurturing a conceptual understanding strong among learners and holds promise for advancing educational methodologies in the early grades. Through its focus on addressing the least-mastered mathematics skills. Project NICE embodies the potential to elevate educational practices and foster academic success among young learner

METHODOLOGY

This chapter presents the methods and procedures employed in this study which includes the research design, sampling technique and collection of data.

Research Design.

This study aims to employ quasi-experimental research employing the pretest and posttest design to assess the effectiveness of Project NICE as a new remediation tool towards the improvement of least mastered skills among the Grade II in mathematics. It learners is quantitative in nature because the data will be collected and interpreted before and after using Project NICE.

Population and Sampling Technique

The participants of the study are the selected Grade 2 students of the selected school in Pasig City who got lower than 15 points (73%) out of 30 items in their 2nd periodic test. The sampling technique of the study was non-probability purposive sampling with 42 participants (9%) from 515 Grade 2 students.

Data Gathering

The research process was categorized into three phases: 1.)

Identification of Least Mastered Topics in Mathematics 2 2.) Development, validation, and implementation of project NICE 3.) Final Phase: Presentation of the results of the post-test that illustrates the improvement of the learner's least mastered skills.

Phase 1: Identification of Least Mastered Skills based on the results of Second Quarter Examination. The researcher identified the following competencies with the least mastered skills.

A. Learning Competencies: (DepEd MELC, S.Y. 2023-2024)

(a) 395 (49%) Solve routine and non-routine problems involving subtraction of whole numbers, including money, with minimums up to 1000 using appropriate problem-solving strategies and tools. (M2NS-IIc-34.2),

(b) 413 (34%) Solve multi-step routine and non-routine problems involving addition and subtraction of 2- to 3-digit numbers, including money, using appropriate problem-solving strategies and tools. (M2NS-IIe-34.4).

B. Least Mastered Skills: (Gill, 2024, Pellissier, 2023)

(a) addition and subtraction within 1,000

(b) reading and writing large numbers

(c) solving word problems involving money

Phase 2: Development, Validation, and Implementation Phase. The researcher made the Project NICE following all the parts and has it validated by the experts in the field of Mathematics. After the validation

© 2024 Batan, M. F. ISSN 3028-2179 process, revisions and suggestions from the experts were made to improve the effectiveness of Project NICE. Then the researcher made a 20-item researcher-made test for the pre-test. Then selected Grade 2 students will utilize the Project NICE as a remediation tool.

Phase 3: Final Phase, after completing the 3-day remediation, the selected learners will answer the same 20-item teacher made test (posttest) to determine whether there was an improvement or none in the learner's least mastered skills.



Figure 2: Research Methodology Process Flow

Research Instruments

The research instrument used in gathering the data is the research made pre-test/post-test.

1. Pre-test/ Post-Test

It is a 20-item test which covers the 2nd quarter skills in the MELC. It was designed to measure the mastery level of the learners. Furthermore, the validated test was finalized before the experiments. This strategy would strongly help for the pre-post-test's accuracy and reliability.

Treatment of Data

The researcher conducted а weighted mean to assess the pretest and posttest achievement of the Grade 2 learners. In addition, the researcher also used the T-test of difference using Wilcoxon mean signed-rank test (paired sample test) to analyze the data and determine the significant difference between the pretest and posttest.

Ethical Considerations.

The following procedures and ethical considerations shall be observed in the process of data collection:

1. Informed Consent. A letter of invitation shall be sent to the school before conducting principals the study. This is to gain their approval for allowing their Grade 2 learners to participate in experimental research. principals Both the and the participants shall be informed of the nature of the study, then proceed to visit the selected sample students on Friday to establish rapport and seek permission from the adviser to collect data from their students.

2. Instrument Validation. A letter requesting assistance from professionals in test validation (master teacher in charge of mathematics, school math coordinator, grade level math coordinator, language validator (Filipino))

3. Beneficence. The research study will be conducted for the benefit of educators who implement numeracy remediation programs in public schools. Thus, the research shall benefit the participants by leading them to improve their least-mastered mathematics skills and ensuring they get long-term benefits from the research.

All the data collected is kept confidential in compliance with Republic Act 10173, Data Privacy Act 2012.

RESULTS AND DISCUSSIONS

			•	
2ND QUARTER TEST -LEAST MASTERED SKILLS	ITEM NO. (LEAST MASTERED SKILLS)	TOTAL NO. OF CORRECT RESPONSE	TOTAL NO. OF MISTAKES	AVERAGE MPS
addition and subtraction within 1,000	3, 5,6,7,8, 10,11,12,13,1 6,17,18,20	264	282	48.35164835
reading and writing large	4, 9	43	40	51.19047619
solving word problems involving money	1,2 , 14, 15, 19	113	98	53.80952381

© 2024 Batan, M. F. ISSN 3028-2179 *Average MPS Score Range: 0-49 (Least Mastered Skills), 50-74 (Nearly Mastered Skills), 75-100 (Mastered)

Table 1 presents the pretest results of Grade 2 learners before intervention. It includes the item number with the least mastered skills based on percentage scores, total correct responses, and weighted mean percentage scores (MPS) from item analysis.

Addition and subtraction within 1000 emerged as the least mastered skills, with 264 correct responses and an average MPS of 48.35. Item analysis revealed 8 out of 13 items fell under this category, indicating a need for intervention to enhance proficiency. Similarly, the table illustrates pretest results for reading and writing large

results for reading and writing large numbers and solving world problems involving money. Reading and writing numbers showed a total of 43 correct responses, averaging 51.19 MPS, nearly mastered based on the score range. In item analysis, one out of two items was identified as the least mastered.

Solving word problems involving displayed money also а nearly mastered skill level, with an average correct of 53.81 from 113 MPS responses. However, two out of five were identified items as least mastered.

These skills indicate that they also require intervention for improvement.

Table	2:	Posttest	Results	(N=42)
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2ND QUARTER TEST -LEAST MASTERED SKILLS	ITEM NO. (LEAST MASTERED SKILLS)	TOTAL NO. OF CORRECT RESPONSE	TOTAL NO. OF MISTAKES	AVERAGE MPS
addition and subtraction within	3,5,6,7,8,10,11,1 2,13,16,17, 18,20	301	245	55 10800513
reading and writing large numbers	4, 9	56	243	66.66666666
solving word problems involving money	1,2 , 14, 15, 19	122	89	57.61904762

*Average MPS Score Range: 0-49 (Least Mastered Skills), 50-74 (Nearly Mastered Skills), 75-100 (Mastered)

Table 2 displays the posttest results of Grade 2 learners after

intervention, detailing item numbers with least mastered skills based on percentage scores, total correct responses, and weighted mean percentage scores (MPS) from item analysis.

Addition and subtraction within 1000 showed nearly mastered, with 301 correct responses and an average MPS of 55.12. Only 3 out of 13 items were identified as least mastered, suggesting intervention for proficiency enhancement.

Similarly, the table highlights posttest results for reading and writing large numbers and solving word problems involving money. Reading and writing numbers had 56 correct responses, averaging 66.67 MPS, with no items identified as least mastered.

Solving money-related word problems also demonstrated near mastery, with an average MPS of 57.62 from 122 correct responses, and no items identified as least mastered.

These outcomes suggest that Project NICE effectively improves reading and writing large numbers and solving word problems involving money.

2nd Quarter Test (Least Mastered Skills)		м	SD	t	đf	p-value	Decision	Interpretation
Addition and subtraction	Pretest	6.29	2.27	47	41	< 001	Painat Un	aignificant
within 1,000	Posttest	7.17	2.01	-4.7	41	<.001	кејест по	significant
Reading and writing large	Pretest	1.02	0.75	-4.20	41	< 001	Reject Ho	significant
numbers	Posttest	1.33	0.69	-4.29	71	<.001	Reject no	significant
Solving word problems	Pretest	2.69	1.05	3 11	41	0.003	Reject He	significant
involving money	Posttest	2.88	1.04	-5.11	+1	0.003	кејест по	significant

Table 3: Test of Differences (N=42) (Paired-sample T-test)

involving money Posttest 2.88 1.04

*df=41, tabulated value=2.021, significance level= 0.05

Table 3 presents the comparison of pretest and posttest scores for selected Grade 2 learners, focusing on the least mastered skills in the second quarter before and after using the Project NICE remediation digital kit. The analysis reveals significant improvements in these skills. For "Addition and Subtraction within 1,000," the pretest mean was 6.29 with a standard deviation (SD) of 2.27, while the posttest mean was 7.17 with an SD of 2.01. The computed T-value was -4.7 with a of <0.001, indicating p-value а significant improvement and rejecting the null hypothesis. Similarly, for "Reading and Writing Large Numbers," the pretest mean was 1.02 with an SD of 1.33, and the posttest mean was 1.33 with an SD of 0.69. The T-value was -4.29 with a p-value of <0.001, also showing significant

© 2024 Batan, M. F. ISSN 3028-2179 improvement. Finally, for "Solving Word Problems Involving Money," the pretest mean was 2.69 with an SD of 1.05, and the posttest mean was 2.88 with an SD of 1.04. The T-value of -3.11 with a p-value of 0.003 further supports a significant improvement. A p-value of less than 0.05 indicates a statistically significant difference. implying that the intervention was effective in strengthening these critical skills.

CONCLUSIONS

pretest data highlighted The addition and subtraction within 1000 as the least mastered skills among 2 Grade learners. Following intervention, posttest results showed improvement across these least mastered skills. This research demonstrates a notable difference in

mathematics proficiency before and after intervention, indicating the effectiveness of Project NICE as a remediation digital kit for improving the least-mastered mathematics skills of Grade 2 learners.

RECOMMENDATIONS

- 1. Extend the use of the Project NICE remediation digital kit to more classrooms and grade levels to help a larger number of learners improve their least-mastered skills.
- 2. Implement regular assessment and monitoring to track the development of the learners using Project NICE. This will help the researchers make a timely adjustment to the intervention strategies to ensure sustained improvement.
- 3. Conduct comprehensive teacher's training sessions on how to effectively integrate the Project NICE digital kit into their daily teaching practices. This will enhance the delivery and effectiveness of the intervention.
- 4. Provide technical support to teachers.
- 5. Expand the content of the Project NICE digital kit to include other challenging areas in the curriculum beyond mathematics, such as reading comprehension and science, to provide a more holistic support system for learners.
- 6. Establish feedback mechanisms where teachers, learners, and parents can share their experiences and suggestions for improving the Project NICE digital kit. This will help in refining the tool based on practical insights and needs.
- 7. Conduct further research to explore the long-term impact of the Project NICE digital kit on the learners' performance and to identify any additional factors

© 2024 Batan, M. F. ISSN 3028-2179 that could enhance its effectiveness.

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Onlayn vs. Tradisyonal na Pagtataya sa Filipino ng mga Piling Mag-aaral sa Filipino: Tungo sa Mabisang Pagtatasa at Propesyonal na Pag-unlad

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ABSTRAK

Nakatuon ang pananaliksik na ito sa onlayn vs. tradisyonal na pagtataya sa Filipino ng mga piling mag-aaral sa baitang 7 sa Paaralang Sekundaryang Quirino Lungsod Quezon. Nilalayon nitong mataya sa ang pagtataya epektibong pamamaraan sa at makapagmungkahi ng epektibong paraan ng pagtataya o pagsusulit gayundin upang mataya ang pagkatuto ng mga mag-aaral gamit ang mga inihanda at itinurong aralin ng mananaliksik na sumasaklaw sa ikatlong markahan. Pinuntahan ng personal ng mananaliksik sa kani-kaniyang mga tahanan ang mga mag-aaral na kabilang sa tradisyunal na pagtataya (paper and pencil test) na kinakailangang sumagot ng paunang pagsusulit o pretest at pangwakas na pagsusulit o posttest, samantala ang mga mag-aaral na kabilang naman sa onlayn na pagtataya (online tests) ay sumagot ng paunang pagsusulit o pretest at pangwakas na pagsusulit o posttest gamit ang google form. Ginamit ng mananaliksik ang tatlumpung (39) na piling mag-aaral bilang respondente sa Baitang 7-Faraday ng nabanggit na paaralan. Mayroong 27 bilang ng mga kababaihan, samantala 12 bilang naman ng mga kalalakihan ang nasabing pangkat. Upang maisagawa ito, gumamit ang mananaliksik ng ekperimental pretest at posttest na disenvo. Sinipat at sinuri ng mananaliksik ang mga nakuhang datos sa tulong ng statistikal tool. Mula rito, nalaman na mas mataas ang nakukuhang puntos o iskor ng pagsusulit ng mga mag-aaral sa Baitang 7-Faraday gamit ang onlayn na pagtataya (online test) gamit ang google form kaysa sa tradisyunal na pagtataya (paper and pencil test). Lumabas din sa pag-aaral na parehong natututo ang mag-aaral sa Baitang 7-Faraday maging ito man ay tradisyunal o onlayn. Batay sa kinalabasan ng nakalap na datos, iminumungkahi ng mananaliksik na patuloy na gamitin ang parehas na kaparaanan sa pagtuturo at sa paraan ng pagtataya nito sapagkat ito naman ay nagpapakita ng pag-unlad sa pagkatuto ng mga

mag-aaral. Bukod sa ginamit na google form para sa pagsusulit, gumamit din ang mananaliksik ng ms powerpoint sa pagtuturo ng araling panggramatika at panitikan, gumamit pa ng ibang inobatibong estratehiya at aplikasyon sa onlayn na klase tulad ng quizzes at mentimer sa ibang bahagi ng pagtuturo upang mas maganyak pa ang mga mag-aaral na makilahok at mag-aral sa asignaturang Filipino.

Mga Susing Salita: Filipino, online, pagtataya, piling mag-aaral sa Filipino 7, tradisyonal

ABSTRACT

This research study aims to assess the effective assessment methods and suggest effective assessment or test methods as well as to assess student learning using lessons prepared and taught by the researcher covering the third quarter lessons. The researcher personally went to the homes of the students belonging to the traditional assessment (paper and pencil test) who were required to answer a pretest and posttest, meanwhile the students who were assessed were included in the online test to answer the pretest and posttest using the google form. The researcher used thirty-nine (39) selected respondents in grade 7-Faraday of the aforementioned school. There were 27 girls and 12 boys in the said group. To accomplish this, the researcher examined and analyzed the obtained data with the help of statistical tools. From this, it was found that the score obtained by grade 7-Faraday students using the online assessment is higher than the traditional assessment (paper and pencil test). This research study also revealed that students in grades 7-Faraday learn the same whether online or traditional. Based on the outcome of the gathered data, the researcher suggests continuing to use the same teaching method and the method forecasting because it shows the progress in the students' learning. In addition to the use of survey form for the test, the researcher also used slides for presentation to teach the lesson on grammar and literature, and used other innovative strategies and applications in the online class in other parts of the teaching to be more motivating and engaging class and for the students to participate, and study in the Filipino subject.

Keywords: Online and traditional assessment, paper and pencil test



INTRODUKSIYON

"Magkatuwang ang pagtuturo at pagtataya sa proseso ng pagtuturo at pagkatuto." -Madsen (1983)

Binigyang-diin din sa K-12 Batayang Kurikulum sa Filipino ang holistikong pagkatuto ng isang mag-aaral sa pamamagitan ng paghasa sa kaniyang mga kasanayan pagbasa, pagsulat, pakikinig, sa pagsasalita, at panonood. Dulot ng pandemya, malaking hamon sa isang maipaunawa guro na sa mga mag-aaral ang mga paksang-araling itinuturo sa bawat araw sa loob ng birtuwal na klase na malayo sa nakagawiang tradisyonal na pamamaraan ng pagtuturo noon. Lahat kasanayan ng ng mga mag-aaral ay dapat na nabibigyang atensyon sa paglago ng kanilang kaalaman, ngunit paano sila matututo kung ang kakayahan nila ay nalilimitahan?

Ang Filipino ay mahalagang asignatura sapagkat nakatutulong ito sa paghubog natin bilang mga tunay na Pilipino. Minsan pa nga'y kahit na ituro ang Filipino sa ibang lebel ay marami pa ring hindi nakauunawa nito. Hindi lamang ito tinitingnan bilang isang pambansang wika kundi isa itong asignatura na itinuturo sa loob ng klase. Dulot ng pandemyang nararanasan natin ngayong panahon naging isang malaking hamon sa hinaharap kung paano ito ituturo at kung paano ang magiging sistema ng pagkatuto't pagtuturo sa loob ng gayong birtuwal na klase hindi nagkikita ng pisikal ang guro't mag-aaral. Hindi lamang ang asignaturang Filipino ang naapektuhan nito ng pandemya kundi lahat ng asignaturang itinuturo sa klase. Naniniwala pa rin ang mananaliksik na maraming inobatibong pamamaraan at

estretahiya na maaaring matutuhan para sa pagpapabuti ng edukasyon ng mga mag-aaral at makasabay sa takbo ng mga pagbabagong nagaganap sa edukasyon upang mataya ang kahusayan at kagalingan ng mga mag-aaral kahit na ang lahat ay nakararanas ng hirap sa gitna ng pandemya.

Ayon kay Villafuerte (2008), Mahalagang magkaroon ng kakayahang pang- estratehiya sa pagtuturo ng wika na hindi lamang nakatuon sa mga gawaing pasalita.

Kaya naman ang pananaliksik na ito ay nakatuon sa pagtataya ng akademikong pagganap ng mga mag-aaral sa Filipino sa Baitang 7 partikular sa kanilang mga pagsusulit na ginagawa sa loob ng klase noong hindi pa kasagsagan ng pandemya na ngayon ay ginagawa na gamit ang mga *online apps* tulad na lamang ng paggamit ng *google forms*.

Ayon kay Wiemken et. Al., 2018; Thuan 2018, ang google forms is a web-based to create for data collection purposes. Isa na rin sa magandang naidudulot nito ay nakagagawa ng mga pagsusulit o pagtataya na maaaring maipasagot sa mga mag-aaral ng onlayn lamang.

Ang pananaliksik na ito ay hindi lamang nakatuon sa pasalita kundi binibigyang- pokus din nito ang kasanayang pasulat at pakikinig. Mula sa pagtatayang isasagawa ay makapagmumungkahi ang mananaliksik epektibong ng epektibong paraan sa pagtatataya para mataya ang pagkatuto ng mga mag-aaral na magagamit ng mga guro gayong tayo ngayong lahat ay nasa pandemya at dumaranas ng malaking pagbabago sa sistema ng edukasyon sa gitna ng blended learning.

Bawat guro ay may iba-ibang aspekto ng paraan ng pagtataya na angkop sa sitwasyon.

Ayon kay Airasian (1994), ang pagtataya ay pagtatagpi-tagpi, paglalagom at pagpapakahulugan sa pagbuo ng desisyon. Maraming kaparaanan ang pagtataya: (1)madiskubre ang problema ng mag-aaral; (2) mapagpasyahan ang kahusayang pang-akademik ng mga mag-aaral; (3) magkaroon ng pidbak sa mga mag-aaral;

(4) makapagplano at makapagsagawa ng pagtuturo; at (5) mailantad at mapanatili ang kaganapang soysal sa loob ng klasrum. —

Ang pagtataya ay mahalagang bahagi ng pagtuturo dahil ito ang magiging batayan sa pagkamit ng itinakdang layunin ng pag-aaral. Ito ay lubos na kailangan upang mataya ang lebel ng kaalaman at kasanayang natutuhan ng mga mag-aaral sa isang paksa at iba pang aralin. Nakatutulong ito upang kilatisin ng bawat mag-aaral sariling ang kalakasan at kahinaan na magiging pundasyon nila upang higit pang mapaghusay ito man ay nasa tradisyunal o online na pagtataya higit lalo tayong lahat ay nasa makabagong sistema edukasyon. ng Kapwa mahalaga ito sa guro at mag-aaral dahil iyo ay isa sa mga pamantayan na titiyak sa pagiging epektibo ng proseso ng pagtuturo at pagkatuto. mahusay na pagtataya Ang av humihikayat sa aktibong pagkatuto tungo sa malikhain at mapanuring pag-iisip. pagkilala sa sarili at pagkakaroon ng mulat na kamalayan na nagyayari sa kanyang lipunan.

Ayon kay Olivia (1993), kailangang isakatuparan ang malawakang pag-aaral na papaksa sa dahilan ng mababang antas ng kaanyuhang natutuhang pang-akademiko ng mga estudyante upang matugunan ang pangangailangan ng mga estudyante sa pang-akademiko.

Ayon naman kay Badayos (2008), ang pagtataya o pagsukat sa natutuhan ay isang walang tigil na proseso at ito ay maaaring maganap anumang oras. Ibig sabihin ang isang pagtataya ay maituturing na bahagi hindi lang sa mga estudyante bagkus pati sa mga ordinaryong tao. Ito'y maaaring pormal o di-pormal.

Mula aklat ni Badayos, sa Metodolohiya sa Pagtuturo (2008), sinasabing ang pagtataya sa tradisyunal na paraan ay isa lamang paraan upang matiyak kung mayroong pagkatutong nagaganap. Nagagawa rin ng pagsusulit na masukat ang masteri ng mga estudyante sa mga lawak ng wika na nalilinang sa klase. Nagpapatunay na hindi lang tradisyunal na pagtataya ang naging batayan ng guro sa pagsukat ng pagkatuto ng bawat estudyante.

May tatlong anyo ng pagtataya na maaaring gamitin: ang *diagnostic*, formative, summative. at Ang pagtatayang *dignostic* ang tumutulong sa mag-aaral upang subukin ang kaalaman at kasanayang nakantanim sa isip, linawin ang mga maling konsepto, at tukuyin ang kalakasan at kahinaan sa isang partikular na kaisipan at kasanayan. Maibibilang sa ganitong mga pagtataya ang paunang pagsusulit (pretest), pagsusuri sa sarili (selfassessment), at pakikipanayam (interview).

Ang pagtatayang *formative* naman ay nagaganap habang isinasagawa ang proseso ng pagtuturo at pagkatuto. Sinusukat nito ang pagbabago ng pagkatuto ng mag-aaral sa klase. Halimbawa, kapag may ginagamit na teknik ang guro sa gawain sa birtuwal na klase, ang

pagtatayang *formative* ang magbibigay ng hudyat sa guro kung gagamitin pang muli ang napiling teknik sa susunod na gawain at sa iba pang pangkat ng mag-aaral. Nakatutulong ito upang mabatid ng guro ang kanyang husay sa pagtuturo sa *online*.

Isinasagawa naman ang summative na pagtataya pagtapos ng pagtalakay mahahalagang sa konseptong dapat pag-aralan. Ito ang nagbibigay ng pidbak (feedback) sa guro upang matiyak niya kung natutuhan talagang ng mga mag-aaral ang kaalaman at kasanayang dapat niyang matutuhan. Kadalasang gumagamit ng rubrik o pamantayan na ibinibigay ng guro simulan bago ang anumang pagtataya. Ito ay upang masukat nang buong husay ng guro ang mga natutuhan kanyang ng mga mag-aaral. Kadalasang nasa anyo ito ng pagsusulit, pagbuo ng proyekto, at pagtatanghal ng gawain.

Sa panahon ng pandemya, malaking hamon sa mga guro na mataya ang kakayahan ng mga mag-aaral lalong-lalo na pagdating sa pagsusulit nito, matiyak kung ang mag-aaral nga ba ang tunay na sumasagot ng kanilang pagsusulit na ibinibigay ng kanilang guro, at kung ito man ay mababa, makapagbibigay ng mga interbensyon o remedyal para mapaunlad ang kakayahan ng mga mag-aaral sa araw-araw na birtuwal na klase ng bawat asignatura.

Ang pagtuturo ay hindi madaling gawin. Hindi sapat na maituro ng isang guro kung ano ang mga aralin/ paksang nakapaloob sa kanyang silabus o modyul kundi kung paano niya ito maituturo at matutuhan ng kanyang mga mag-aaral. Ang kahusayan pagtuturo ng ay nasusukat hindi sa dami ng mga natutuhan ng kanyang mga

mag-aaral. Taglay niya ang kaalaman sa aralin habang bukas sa iba pang kaalaman sa kanyang erya. kaalaman. Nagbabahagi siya ng kagamitan, at karanasan. Angkin ang kanyang intelektuwal, emosyonal, sosyal, ekonomiko, at pisikal. At dahil ang kurikulum ay interaktibo, inaasahang maglulunsad ng mga gawaing magbibigay sa mga estudyante ng pagkakataong magtagisan ng talino o magpalitan ng mga ideya.

Mahalaga ang interaksyon sa pagtuturo at pagkatuto sapagkat hindi lamang pagpapahayag ng sariling ideya ang mahalaga kundi ang pag-unawa sa mensaheng ipinahahayag ng iba pang kasangkot sa interaksyon. Sa tradisyunal na pagtuturo sa klasrum, ang guro ang laging sentro ng talakayan, ang may malaking bahagdan ng gawain lalo na samantalang pagsasalita ang sa mag-aaral ay tagapakinig at tagasunod lamang. Ang epektibong pagkatuto kahit na sa birtuwal na klase dahil sa pandemyang kinahaharap ng bansa, kinakailangan pa ring makapag-eksperimento ng iba't ibang pamamaraan upang makapaglatag at makapagmungkahi ng epektibong estratehiya kung paano matataya ang kahusayan ng mga mag-aaral pagdating sa pagsagot sa kanilang pagsusulit at pagdating sa kanilang pagkatuto kahit na ito ay onlayn man.

magsisilbing Ang guro ang tagapatnubay/pasiliteytor lamang sa iba't ibang gawain sa birtuwal na klase at ang mga mag-aaral naman ay aktibong nakikilahok sa iba't ibang gawain. Sa interaksyon ng mga kapwa mag-aaral sa mag-aaral, kailangang bigyan sila ng pantay na pagkakataon na makilahok sa iba't ibang gawain upang malinang ang kani-kanilang kasanayan.

Ang pagsusulit na mahusay ang pagkakagawa ay malaki ang tulong upang magkaroon ng interes sa pag-aaral ang mag-aaral, dahil sa ng pidbak na dulot pagsusulit nagkakaaroon ng katuparan ang mga pagsisikap ng isang mag-aaral batay sa kanyang pag- aaral. Nagiging daan din ang pagsusulit sa lubusang pagkatuto, natututo ang mga bata habang nag-aaral para sa pagsusulit, at pagkatapos maiwasto ang kanilang papel makikita sa resulta ng pagsusulit kung ano ang lubusang natututuhan ng mag-aaral at aling mga kasanayang dapat na pag-aralan muli. Sa panahon ngayon ng pandemya, hindi na lamang iisa ang pagsusulit na ginagawa para sa mga upang mataya mag-aaral ang pagkatuto ng mga mag- aaral. Kung dati-rati ay nasanay ang mga guro't mag-aaral sa paper and pencil test o tradisyunal na pagsusulit, ngayon ay ginagawa na rin ang onlayn na pagsusulit o online test na maaaring maisagawa sa pamamagitan ng iba't ibang aplikasyon sa internet. Ngunit malaki pa rin ang pangamba sa pagsasagawa ng mga ganitong klase ng pagsusulit sapagkat ayon sa mananaliksik, hindi natitiyak ang pagkatuto ng mga mag-aaral lalo pa dahil hindi nakikita ng personal o face-to-face ang mga mag-aaral. Minsan pa nga ay may agam-agam sa isipan ng mga guro kung ang mga mag-aaral ba ang sumasagot ng kanilang pagsusulit na ibinibigay ng guro gamit ang platapormang onlayn. Dahil ipinakikita rin ng onlayn na ito sa panahon ng pandemya, malaya ring gawin ng mga mag-aaral na sila ay makapangopya ng mga sagot sa internet, o kaya ay makapandaraya sa mga pagsusulit na ibinibigay ng mga guro sa kanila.

Ang pag-usbong ng onlayn na pagtataya ay isa sa mga salin na humantong sa pagiging modernisado ng edukasyon dito sa Pilipinas na masasabing nakabubuti sa pag-angkop nito sa kasalukuyang panahon pagproseso ng ng impormasyon at ang mga nilalaman nito. Ang kahalagahan ng pag-aaral na ito ay nakita sa kabila ng mga hadlang at balakid na nakaaakibat dito gaya ng pagtatala ng iskor at ang katunayan, sa ilang pagkakataong dumanas ng teknikal na suliranin tulad ng magbagal na internet ay nabigyan ng kagawaran ng edukasyon ng agarang solusyon ang mga ito.

Ayon mananaliksik, sa ang pagkakaroon ng matibay na batayan sa pagbuo ng pagsusulit ay marapat lamang na ito ay ebidente. Sa pag-aaral na ito tinatangkang mataya ang pagkatuto ng mga mag-aaral. Magkaroon nang paghahambing sa dalawang kaparaanan ng pagtataya: onlayn at tradiyunal. Mataya kung ano ang mas epektibong gamitin sa pagtataya na ibinibigay sa mag-aaral at mataya ang pagkatuto ng mga mag-aaral isinasagawang sa pagtuturo ng guro sa onlayn.

KAUGNAY NA LITERATURA

Ang bahaging ng pananaliksik na ito ay naglalaman ng akademiko at propesyonal na mga babasahin na may kinalaman sa mga kagamitang pampagtuturo, epekto, at antas ng paggamit nito. Mayroon ding mga bahagi na makapagbibigay-ambag sa napapanahong mga isyu partikular sa larangan ng edukasyon.

Sa pagpasok ng ika-21 na siglo nagsimulang magkaroon ng ibayong pansin sa pangangailangan ng mga platapormang gagamitin para sa pagtuturo na gagamitin ng guro tungo sa pagkatuto ng mga mag-aaral. Bilang pagsasaalang-alang sa kapakanan ng mga mag- aaral at upang magkaroon ng makahulugan at mabisang pagtuturo gamit ang birtuwal na klase. Ang guro ay

napipilitang gumamit ng iba't ibang aplikasyon at kagamitang pampagtuturo upang makasabay sa patuloy na pagbabago ng edukasyon lalong-lalo na pagdating sa pagtataya sa kasanayan ng mga mag-aaral sa kanilang akademikog pagganap sa klase gaya ng pagsagot ng mga pagsusulit.

Ayon kay Lee (2013), marami pa ring mga guro sa mga paaralan, pribado at pampubliko, ang gumagamit ng tradisyunal na pagtuturo ng kanilang nahasa sa Marami dekada. maraming pang kaparaanan ang hindi pa lubusang natutukoy guro ng mga na matatagpuan sa social media, sa internet.

Ayon kay Barceno (2012), ang akademikong pagganap ay tunay na nangangahulugan ng tatlong buhay: kakayahang mapag-aralan at maalala ang mga katotohanan; magkaroon ng kakayahang makapag-aral ng mabisa at malaman kung paano ang katotohanan ay sumasang-ayon sa isa at isa upang bumuo ng mas malawak na huwaran ng kaalaman at isipan sarili kaugnay ang sa mga katotohanang ito; at pangatlo, kakayahang maipahayag ang sariling kaalaman sa pagsasalita man o sa pagsulat man ng sa papel. Ang mahsay na akademikong pagganap ay nakaangkala rin sa pagkakaroon ng mabuting pagbubuklod-buklod ng sariling kakayahan na ang ilan nga ay ang maayos na lugar para sa gawain at maayos na pamamahala sa oras. Ang lahat dapat ng ito ay isinasaalang-alang din.

Ayon sa mananaliksik, higit na matututo ang mga bata kung buhay ang talakayan sa klase kahit na ito man ay onlayn. Nakatutulong ang paggamit ng iba't ibang aplikasyon upang madebelop at mapaunlad ang kakayahan ng mga mag-aaral at maging interaktibo ito. Ilan din sa kaparaanang ginagamit mga sa kasalukuyan upang mataya ang kasanayan ng mga mag- aaral ay ang pakikinig panonood at sa mga telebisyon, radyo, at iba pang elektronikong kagamitan sa pagtuturo na inilunsad ng Kagawaran ng Edukasyon.

Sinabi pa ni Aguilar (2001), ang paghubog ng mga guro ng kagamitang pampagtuturo ay makatutulong nang malaki sa pagtuturo ng hindi gaanong napakahirap sa gawain. Subalit nangangailangan ito ng pagtitiyaga, pagtitiis, lakas ng loob, at pagiging maparaan guro. Kailangang ng pinag-iisipang mabuti at hindi lamang sariling kapakanan ang iniisip sa kagamitang paggamit ng mga pampagtuturo. Isa sa pinakamahalagang tungkulin ng isang guro ay masiguro na may natutuhan ang mga mag-aaral sa itinuturo gamit ang kagamitan.

Dagdag pa ni Dede (2009), ang mga tao ay gumagamit ng kompyuter at *internet* sa iba't ibang layunin, kabilang na rito ang paglilibang, pang-edukasyon, pagkuha ng impormasyon, at komunikasyon. Nangangahulugan lamang na ang guro ay dapat magkaroon ng sapat na layunin sa kanyang gawain, malinaw dapat sa mga mag-aaral na hindi lamang panlibang ang gamit ng teknolohiya bagkus ay upang matuto sa mga aralin.

Teoretikal/Konseptuwal na Balangkas

Sa bahaging ito ay naglalaman ng pag-aaral na isinagawa. Nakatuon din ito sa pangunahing kaisipan at panuntunan ng pagsisiyasat. Naglalayon din ang mananaliksik na mataya ang kasanayan ng mga mag-aaral pagdating sa pagsagot ng kanilang mga pagtataya at maging

ang kanilang pagkatuto sa ilalim ng birtuwal na klase. Bukod dito, ang pananaliksik ay naglalayon ding makapagmungkahi ng mga inobatibong estratehiya sa pagtuturo, pagpapabuti, at pagpapalago ng kasanayan ng mga mag-aaral sa Filipino ng baitang 7 sa Paaralang Sekundarya ng Quirino ng Lungsod Quezon.

TEORETIKAL/KONSEPTUWAL NA BALANGKAS



Pigura 1. Ang Paradimo ng Pag-aaral

Sa bahaging ito ay naglalaman ng pag-aaral na isinagawa. Nakatuon din ito sa pangunahing kaisipan at panuntunan pagsisiyasat. ng Naglalayon din ang mananaliksik na ang kasanayan mataya ng mga mag-aaral pagdating sa pagsagot ng kanilang mga pagsusulit at pagkatuto kahit na patuloy na nararanasan ng pagbabago sa sistema ng edukasyon. Bukod dito, ang pananaliksik ay ding naglalayon makapaghain 0 makapagmungkahi ng mga inobatibong estratehiya sa pagtuturo, pagpapabuti, at pagpapalago ng kasanayan ng mga mag-aaral sa Filipino ng baitang 7 sa Paaralang Sekundarya ng Quirino ng Lungsod Quezon.

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Ang pigura 1 ay nagpapakita lamang na ang pananaliksik na ito ay magsisimula sa isang aktuwal na pagtuturong onlayn ng guro na may kinalaman sa panitikan at gramatika na aralin sa Filipino. Matapos maituro ng guro ang kanyang aralin ay maghahanda ito ng pagtataya (pretest at posttest) sa paraang onlayn at tradisyunal na susubok sa kakayahan ng mga mag-aaral sa kanilang mga natutuhan. Magagamit din ng mananaliksik ang resulta ng pagtataya upang makapagmungkahi epektibong paraan ng mga ng pagtatataya ng aralin sa Filipino sa linya ng kakayahang panggramatika at pampanitikan. Makatutulong ito sapagkat matutukoy sa pag-aaral na ito ang mga kahinaang dapat na ipagpatuloy, linangin, at paunlarin.

PAGLALAHAD NG SULIRANIN

Sa pananaliksik na ito, mananaliksik tatangkain ng na mataya ang pagkatuto ng piling mga mag-aaral sa baitang 7 sa pamamagitan ng pagsagot sa pretest at *posttest* na inhanda ng guro. Ito rin ay upang malaman at mataya ang epektibong pamamaraan ng pagtataya at mataya ang pagkatuto ng mga at magamit din itong mag-aaral pagmumungkahi batayan sa ng epektibong pagtataya pagtapos ng bawat talakayan sa pagtuturo ng guro.

Kung kaya't ang mananaliksik ay susubukang sagutin ang sumusunod na katanungan:

- 1. Ano ang *mean* ng *pretest score* at *postest score* ng mga mag-aaral na sumagot sa pagtatayang onlayn at tradisyunal?
- 2. Ano ang makabuluhang pagkakaiba sa pagitan ng mga resulta ng pretest mean at posttest теап ng mga mag-aaral sumagot na sa pagtatayang onlayn at tradisyunal?
- 3. Ano ang makabuluhang pagkakaiba sa pagitan ng mga resulta ng pagkatuto ng mga mag- aaral sa pagitan ng pagtatayang onlayn at tradisyunal?
- 4. Ano ang mas epektibong gamitin sa pagtataya at pagkatuto ng mga mag-aaral?

SAKLAW AT LIMITASYON

Ang pananaliksik na ito ay nakatuon sa pagtataya ng mga piling mag-aaral sa Filipino sa Baitang 7 at pagtataya sa pagkatuto ng mga

© 2024 Alorro, J. F. ISSN 3028-2179 araling tinalakay sa ikatlong makahan. Ito rin ay gagamitin upang magkaroon ng sapat na batayan sa pagmumungkahi ng epektibong estratehiya sa pagtuturo at pagbibigay ng pagsusulit sa tradisyunal o onlayn na kaparaanan.

Ang mga mag-aaral na ito ang binibigyang-pansin ng mananaliksik sapagkat sila ang makapagbibigay ng datos batay sa hinihingi at kahilingan ng pananaliksik.

Ang pananaliksik ding ito ay hindi rin nakasisiguro sa panlahat na pananaw ng mga respondente o guro sa buong pamantasan o unibersidad sa loob ng ating bansa. Subalit kung anuman ang magiging kalalabasan ng pag-aaral na ito ay hindi malalayo sa pagsusuring ng datos na ginawa ng mananaliksik.

METODOLOHIYA

Ang pananaliksik na ito ay kinapapalooban ng mga pamamaraang ginawa ng mananaliksik batay sa pagdidisenyo sa mga hakbang sa pagdidisenyo ng pananaliksik, ang mga kalahok na kasangkot sa isinagawang pag-aaral, ang ganapan, at ang mga instrumentong ginamit.

Mga Kalahok sa Pag-aaral

Ang mga respondente sa isinagawang pananaliksik ay binuo ng tatlumpu't siyam (39) mag-aaral mula sa isang seksyon ng baitang 7 sa Paaralang Sekondaryang Quirino ng Lungsod Quezon. Hinati ito sa dalawang pangkat. Nagsagawa ng paunang pagtataya (pretest) ang guro na kung saan ang labing siyam (19) mag-aaral ay nagkaroon ng pagtataya gamit ang onlayn sa tulong ng google form, samantala ang dalawampu (20) naman ay sumagot ng pagtatayang tradisyunal (paper and pencil test). Makalipas ang limang linggo ay saka ipinasagot ng guro sa mga mag-aaral pangwakas ng pagtatava ang (posttest) na hinati muli sa dalawang grupo. Ang unang pangkat ay labing siyam (19)na mag-aaral na sumagot ng pagtatayang onlayn gamit ang samantala google form). ang (20)dalawampu naman ay pagtatayang radisyunal (paper and pencil test). Isa rin sa pinagbatayan ng mananaliksik sa pagpili ng mga respondente ay ang mga grado o marka ng bawat indibidwal sa asignaturang Filipino. Tinivak ng mananaliksik na ang sumagot sa onlayn ay ang mga mag-aaral na mayroong sapat na kagamitan o gadyet at higit dito ay ang malakas na internet upang lubos na maisakatuparan pagtatayang ang onlayn, samantala ang mga may mahihinang internet at may limitadong gadyet ay ang sumagot naman para paatatayana sa tradisyunal. Bukod dito, kinonsidera din ng mananaliksik na ang tanging sumagot ng tradisyunal na pagsusulit ay malapit at madaling puntahan sa kani-kaniyang tahanan. Personal o pisikal na pinuntahan ng mananaliksik ang bawat mag-aaral sumagot inihandang upang sa tradisyunal na pagsusulit.

Disenyo ng Pananaliksik

Ang pananaliksik na ito ay isang kwantitatibong pananaliksik. Gumamit mananaliksik ang ng disenyong Pretest at Posttest Experimental isinagawang na pananaliksik. Ito ay ginamit upang mataya ang kakayahan at pagkakaiba nakukuhang marka ng mga ng mag-aaral gamit ang pagtatayang tradisyunalt (paper and pencil test) at pagtatayang onlayn gamit ang google form at mataya rin ang kabuuang pagkatuto ng mga mag-aaral sa dalawang kaparaanan.

Mga Kalahok at Instrumento ng Pananaliksik

Ang pangunahing instrumentong ginamit ng mananaliksik sa paglikom at pangangalap ng datos ay mula sa nabuong pretest at posttest na nakaangkla sa ikatlong markahang araling panitikan at gramatika na ipinasagot sa mga mag-aaral gamit ang pagtatayang tradisyunal (paper and pencil test) at pagtatayang onlayn gamit ang google form. Naniniwala ang mananaliksik na ito ang ilan sa mga pinakamabisang kagamitan sa pagkalap mga tivak ng na impormasyon para sa isinagawang pananaliksik. Ito ay lubos na nakatulong upang masuri at matalakay ang datos na nakalap.

Hakbang sa Pangangalap ng Datos

Ang mananaliksik ay gumamit ng google forms para sa pagtatayang onlayn *at* nag-imprenta naman ng dalawampung (20)kopya ng pagsusulit para sa pagtatayang tradisyunal sa parehong pretest o paunang pagtataya at posttest o pangwakas na pagtataya upang makapangalap ng datos sa mga piling mag-aaral sa baitang 7 ng Paaralang Sekundaryang Quirino ng Lungsod Quezon. Para maisakatuparan ang tradisyunal na pagtataya, pinuntahan ng mananaliksik sa kani-kaniyang tahanan ang mga piling dalawampung (20) mag-aaral na sumagot naman ng tradisyunal pagsusulit na ng parehong pretest 0 paunang pagsusulit at *posttest* o pangwakas na pagsusulit. Bago, habang at pagtapos ng pananaliksik ay siniguro ng mananaliksik na mayroon itong pormal na kasulatan at pahintulot ng paaralan magulang at ng ng respondente. Nang matapos na ng mananaliksik ang parehong tradisyunal at onlayn na pagsusulit saka naman sinuri av ang kinalabasan ng resulta ng nakalap na datos.

Pagsusuri at Pagtalakay sa Datos
Ang MS Excel at IBM SPSS ang mga ginamit sa pagsusuri ng datos. Ang *pretest* o paunang pagtataya ang unang isinagawa gamit ang online mataya paunang upang ang kaalaman ng mga mag-aaral sa mga tatalakayin araling bilang paghahanda sa ikatlong markahan. Matapos ang limang linggo av nagsagawa naman ang mananaliksik ng *posttest* o pangwakas na pagtataya upang malaman at mataya naman ang antas ng pag-unlad pagkatuto ng mag-aaral at makita mga ang pagbabago ng puntos sa pagsagot ng pagtatayang onlayn na paraan sa tulong ng qooqle forms. Sinuri ng mananaliksik ang pagkatuto ng mga mag-aaral gamit ang pormula ng *mean* sa ibaba.

$$\mu = \frac{\sum x}{n}$$

Etikal na Konsiderasyon

Ang etika ng pananaliskik ay mga gawaing sulatin o reserts kung saan humanap ang mananaliksik ng impormasyon para sa mga problema o katanungan sa isang bansa o tiyak na lugar upang masagot at mailapat ang nararapat na solusyon dito.

Malaki ang gampanin ng mananaliksik sa isinagawang pananaliksik na ito. Naging maingat sa pangangalap ng impormasyon sa bawat hakbang na isinagawa rito. Sapagkat mayroon itong etika na ginamit bilang gabay sa isinagawang pag-aaral. Sa pananaliksik na ito, ang mananaliksik ay naglahad ng mga impormasyon na may kinalaman sa pamamagitan pag-aaral sa ng pagkilala sa mga manunulat na kinuhanan nito ng mga datos. Ang mananaliksik rin ay humingi ng permiso mula sa dibisyon ng Lungsod Quezon, sa punonggur, sa komite ng pananaliksik Paaralang ng Sekundaryang Quirino, mga guro at tagapayo ng baiting 7-Faraday, at mga magulang at mag-aaral ng

paaralan, naturang na payagang impormasyon mangalap ng sa isinagawang pananaliksik. Ang naging tungkulin din ng mananaliksik sa isinagawang pananaliksik na ito ay sistematiko. Ito ay may reyalistikong iskedvul paggawa sa at may katapatan sa paggawa dahil inilahad lamang dito ang limitasvong nakaharap pananaliksik. sa Naniniwala ang mananaliksi na hindi tahasang panggagagad o pag-aangkin ng gawa mula sa ibang pananaliksik. Binigyang-pagkilala ng mananaliksik ang lahat ng pinagkuhanang datos nito. Ang mananaliksik ay naging maingat, matiyaga, sistematiko, responsable matapat, at sa pananaliksik. Kinilala din ang mga sangguniang pinaghanguan ng datos upang maiwasan ang panggagagad.

PAGTALAKAY NG RESULTA AT REKOMENDASYON

Ang kabanatang ito ay naglalahad ng resulta, pagsusuri, at pagtalakay ng mga datos.

Ang mga katanungan na sasagutin sa pag-aaral na ito ay ang mga sumsunod:

- 1. Ano ang *mean* ng *pretest score* at *postest score* ng mga mag-aaral na sumagot sa pagtatayang onlayn at tradisyunal?
- 2. Ano ang makabuluhang pagkakaiba sa pagitan ng mga resulta ng *pretest mean* at *posttest mean* ng mga mag-aaral na sumagot sa pagtatayang onlayn at tradisyunal?
- 3. Ano ang makabuluhang pagkakaiba sa pagitan ng mga resulta ng pagkatuto ng mga mag- aaral sa pagitan ng pagtatayang onlayn at tradisyunal?
- 4. Ano ang mas epektibong gamitin sa pagtataya at pagkatuto ng mga mag-aaral?

© 2024 Alorro, J. F. ISSN 3028-2179 **Talahanayan 1.** Ipinakikita ang *mean* ng *pretest score* at *postest score* ng mga mag-aaral na sumagot sa pagtatayang onlayn at tradisyunal.

Tradisyunal na Pagtataya Paired Samples Statistics

Makikita sa talahanayang ito ang tradisyunal *pretest mean* ay mayroong katumbas na 25.2000, samantala ang tradisyunal *posttest mean* naman ay makikitang mas mataas sapagkat mayroon itong katumbas na 34.7000.

Onlayn na Pagtataya Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Online PreTest	26.2105	19	4.82561	1.10707
Online PostTest	44.9474	19	5.07142	1.16346

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Traditio naPreTe st	25.2000	20	5.49258	1.22818
	TpostTe st	34.7000	20	9.40381	2.1027€

Makikita sa talahanayang ito ang onlayn *pretest mean* ay mayroong katumbas na 26.2106, samantala ang *onlayn posttest mean* naman ay mas mataas sapagkat mayroon itong katumbas na 44.9474.

Talahanayan 2. Ipinakikita ang makabuluhang pagkakaiba sa pagitan ng mga resulta ng *pretest mean* at *posttest mean* ng mga mag-aaral na sumagot ng pagtatayang onlayn at tradisyunal?

	Paired Differences							
		Std.	Std. Error	95% Co: Interva Diffe	nfidence ıl of the rence			Sig. (2-
	Mean	Deviation	Mean	Lower	Upper	t	df	tailed)
Pair Traditional 1 PreTest – Traditional PostTest	-9.50000	9.88619	2.21062	-14.12688	-4.87312	-4.297	19	.000

Tradisyunal na Pagtataya (Paired Samples Test)

Makikita sa talahanayang ito ang tradisyunal *pretest* at tradisyunal *posttest mean* na -9.50000 at Sig. (2-tailed) .000 na nagpapakita lamang

na mayroong makabuluhang pagkakaiba sa pagitan ng resulta ng *pretest mean* at *posttest mean* ng mga mag-aaral na sumagot ng pagtatayang tradisyunal.

Onlayn na Pagtataya (Paired Samples Test)



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	Paired Differences							
		Std.	Std. Error	95% Co: Interva Diffe	nfidence 1 of the rence			Sig. (2-
	Mean	Deviation	Mean	Lower	Upper	t	df	tailed)
Pair Traditional 1 PreTest – Traditional PostTest	-9.50000	9.88619	2.21062	-14.12688	-4.87312	-4.297	19	.000

Makikita sa talahanayang ito ang onlayn *pretest* at onlayn posttest mean na - 1.87368E1 at Sig. (2-tailed) .000 na nagpapakita na mayroong makabuluhang pagkakaiba sa pagitan ng resulta ng *pretest mean* at *posttest mean* ng mga mag-aaral na sumagot ng pagtatayang onlayn.

Talahanayan 3. Ipinakikita ang makabuluhang pagkakaiba sa pagitan ng mga resulta ng pagkatuto ng mga mag-aaral.

		Levene's Test for Equality of Variances				t-test fo	or Equalit	y of Mear	เร	
						Sig. (2-	Mean Differe	Std. Error Differe	95% Co Interva Diffe	nfidence il of the rence
		F	Sig.	Т	df	tailed)	nce	nce	Lower	Upper
POST TEST SCORE	Equal variances assumed	5.090	.030	4.20 3	37	.000	10.2473 7	2.43818	5.30715	15.1875 9
	Equal variances not assumed			4.26 4	29.4 96	.000	10.2473 7	2.40317	5.33592	15.1588 1

Independent Samples Test

Ang talahanayang ito ay nagpapakita lamang an mayroong makabuluhang pagkakaiba na makikita sa sig. (2-tailed) na parehong .000 sa pagitan ng mga resulta sa pagkatuto ng mga mag-aaral sa pagitan ng pagtatayang tradisyunal at onlayn.

4. Ano ang mas epektibong gamitin sa pagsagot ng pagsusulit o pagtataya at pagkatuto ng mga mag-aaral, *online* o tradisyunal?

Batay sa resulta ng datos na nakalap, nagpapakita lamang na ang mas epektibong gamitin sa pagsagot ng pagtatay ay ang pagtatayang onlayn gamit ang *google form*. Makikita rin sa dito na mas mataas ang pagkatuto ng mga mag- aaral gamit ang platapormang onlayn sa tulong naman ng *ms powerpoint* at ibang aplikasyong ginamit ng guro.

KONKLUSYON

© 2024 Alorro, J. F. ISSN 3028-2179 Batay sa ginawang pangangalap ng impormasyon ng mananaliksik, natuklasan ang mga sumusunod:

- 1. Batay sa isinagawang pagsusuri at pagtalakay ng datos, mas mataas ang nakukuhang puntos o iskor sa pretest at posttest ng mga magaaral sa baitang 7-Faraday gamit ang pagtatayang onlayn sa tulong ng google forms kumpara sa mga mag-aaral na sumagot sa pagtatayang tradisyunal (paper and penceil test).
- 2. Lumabas din sa resulta na parehong may pagkatuto ang mga mag-aaral gamit ang onlayn.

REKOMENDASYON

Kaugnay sa kongklusyon na nabanggit ng mananaliksik, buong pagpapakumbaba na inirerekomenda ng mananaliksik ang mga sumusunod:

- 1. Ipagpatuloy ang paggamit ng pagtatayang tradisyunal (*paper and pencil test*) at pagtatayang onlayn (*online test*) sa mga mag-aaral para mas lalong mataya at mapaunlad ang pagtuturo at pagkatuto sa dalawang kaparaanan---pisikal o birtuwal mang klase.
- 2. Sa pagsasagawa ng pagtatayang onlayn o online test, mag-isip pa ng ibang kaparaanan upang mas lalong matiyak na ang mga mag-aaral mismo ang sumasagot sa kanilang pagsusulit tulad ng paggugulo ng mga tanong at sagot o shaffle the questions and answers.
- 3. Gumamit ng mga makabagong onlyan na aplikasyon o *online apps* para makapagbigay ng pagsusulit hindi lang sa *google form* kundi sa iba't ibang *apps* o aplikasyon tulad ng *kahoot*,

quizziz, at nearpod, suriin kung paano nag-iiba-iba ang kanilang mga nakukuhang puntos at antas ng pagkatuto.

4. Sa pagtalakay ng aralin, gumamit din ng interaktibong *apps* hindi lang dapat sa *mspowerpoint* na karaniwang ginagamit na sa pagtuturo, bagkus gumamit ng mga mga makabagong *apps* tulad ng *peardeck*, *google classroom*, at classpoint.

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English Reading Partners on the Move: A Pre-Experimental Study to Improve Grade 2 Learners' Reading Skills

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ABSTRACT

The alarming prevalence of reading skill deprivation in young learners has been exacerbated by the pandemic and school closures. As a result, a reading intervention was seen as essential to supplement and meet the needs of learners in terms of reading retention. The researchers conducted a pre-experimental study with Grade 2 learners at St. Anne Learning Center to gradually provide a solution to this underlying problem. The pre-experimental study focused on English Reading Partners, four weeks of reading intervention program designed to improve learners' skills in reading comprehension, sight-word efficacy, and fluency. The program's impact was evaluated using a one-group pre-test and post-test design, comparing results before and after the reading intervention. The study's results, analyzed using Bett's Criteria, P-Value, and the Wilcoxon signed-rank test, were further validated by feedback from learners and advisers, attesting to the significant changes observed. In conclusion, the reading intervention was effective, as significant changes were proven by a thorough analysis of the statistical method. This study shows that learners were below the frustration level but became instructional after the intervention. Overall, receiving English Reading Partners helped Grade 2 learners regain their reading skills and identified a few key factors in fully maximizing them.

Keywords: English Reading Partners, Fluency, Learning Group, Reading Comprehension, Sight-Word Efficacy



INTRODUCTION

The COVID-19 pandemic has profoundly impacted daily life and the leading educational system, to widespread school closures and changes in learning modalities, with students facing challenges in online and distance education. Notably, the pandemic has exacerbated issues in reading skills, particularly among young learners. Reports indicate that many students struggle with remote resulting learning, in decreased interest in reading. Data from UNICEF reveals a decline in reading proficiency among Filipino youth, with 3 out of 20 learners capable of reading simple texts after almost two years of disrupted schooling. Factors lack of preparedness, such as learning gaps, and socio-economic status further influence reading skills. To address these challenges, various reading programs, such as the Philippines Whole School Reading (WSRP) and Program Reading Partners, have been implemented. The WSRP, specifically designed for pandemic-affected young learners, has shown positive outcomes, while Reading Partners, а one-on-one tutoring intervention, has demonstrated statistically significant improvements in reading comprehension scores. The research aims to implement a modified reading program focusing on comprehension, sight-word efficacy, and fluency to help struggling school children affected by pandemic the and strengthen their reading skills for lifelong learning.

The significance of the English language to the developing country where every student needs to learn the basic English for them to understand the real world (Putra, 2020). Especially, since using the English Language is a way that every student to learn the world and the world can be only understood using the English language through internet access (British Council, n.d.).

Reading is crucial for accessing condensed knowledge. and the strategies to improve reading skills, such as mastering techniques and employing interventions, significantly comprehension abilities. enhance fostering active engagement with the Effective strategies for context. improving reading skills. as highlighted by Bandtvilai (2020), involve mastering technique and understanding their purpose, timing, mechanics, and justifications, impacting both expert and less competent readers. Small group reading therapies, such as repeated reading and passage review that Hall emphasized by and Burns (2018), contribute to increase fluency while in intervention or incorporating vocabulary mastery and techniques like the Fix-up method in order to appear to have an successful in the Primary Learners' enhancing reading comprehension abilities.

Tutoring, as a supplementary service, aids students who didn't reach their expected grade level by enhancing their knowledge in various subjects and promoting adaptable, customized learning (Nickow, et. Al, 2020). Tutorial programs not only reduce academic failure but also students' confidence. enhance communication skills, and self-esteem through positive affirmations and encouragement. Implementing collaborative these learning in learners' programs boosts productivity, improves various language skills, and is perceived by students as a significant factor in their achievement in English subjects (Glomo, 2019). Vocabulary is a crucial factor in determining a student's reading comprehension, suggesting that comprehension follows mastery other language areas in like vocabulary and grammar. Vocabulary intervention, which expands а

Learners's word knowledge, which enhances their general language ability and decoding skills, is essential for improving comprehension (Gavin B., et al., 2021 p. 351).

The study is anchored on Rudolf Flesch (1995) bottom-up theory of reading which from the term itself. "Bottom-Up," the process of reading focuses on equipping students with foundational skills that involve explicit instructions where basic skills are being taught with plan, sequential order. Important information is shown in small steps and reinforced by practice activities having until learners are able to be familiar with it by mastering, as each step is built on the previous one.



Figure 1 Research Paradigm

The illustration depicts the research framework for learners participating in a 4-week English Reading Partners program. Learners underwent both pre- and post-tests, conducted before and after the program, respectively, following the interview for the teacher and learner for the completion of the program.

The statement of the problem of this study determines the answer of what is the mean score. the significant difference between the pre-test and post-test of the

© 2024 Liwanag et al. ISSN 3028-2179 respondents in terms of reading comprehension, sight-word efficacy, and fluency and the feedback received from the Grade 2 learners and the classroom adviser.

A reading intervention program for 2 students at St. Grade Anne Learning School who are enrolled in the school year 2022-2023. The study is restricted only to the struggling readers based on their pre-test and will receive the reading intervention program on weekdays for four consecutive weeks. Following the reading intervention program, а post-test and interview with their classroom teacher and learners.

This research may be beneficial to the following; Students, it may assist them to develop their skills, learn efficiently and improve academic performance and in the use of English language; Future Teachers, it provide learning experience, will enhance their knowledge and skills in teaching English language; Teachers, it will make their job easier to teach students in English reading with comprehension; Department of Education

(DepEd) and Commission on Higher Education (CHED), this will inform both institutions of the benefits of the partnership program and to consider; and for future researchers, it may provide concrete data, evidence, and information that will aid in their future research.

METHODOLOGY

This study utilized a pre-experimental design to assess the progress of Grade 2 students' reading skills during a 4-week English Reading Partners program.

Research Design.

The design observes changes in a single group throughout an

intervention, validated the program's effectiveness, and laid the for groundwork future English reading partner-like interventions. The type of pre-experimental research used is the one-group pre-test-post-test, which evaluates learners' improvement in their throughout reading skills the conducted reading intervention program. With the use of a one-group pretest-post design, the impact of the program is concluded bv the researchers by analyzing the changes that occurred in the learners, their sight-word particularly in efficacy, reading comprehension, and fluency.

Population and Sampling Technique

The participants of this study are the 10 qualified struggling readers from Grade 2 learners of St. Anne Learning Center based on the pre-test and underwent the program for 4 consecutive weeks only on weekdays. Afterward, a post-test given to assess their learning progress. Finally, an interview with the learners and their classroom teacher.

Data Gathering

The pre-test and post-test instruments used in the program were researcher-made that consisted of 25-item multiple choice from A to C with five stories in every five questions of the instrument. The researchers conducted a pre-test to determine the struggling students. At the program the end of the researchers conducted a post-test and interview with the classroom adviser as well as the feedback of the learners about the program.

Data Analysis

Nonparametric statistics are chosen in order to statistically

© 2024 Liwanag et al. ISSN 3028-2179 measure the data of the learners both from pre-test and post-test results. The research instrument uses three dimensions of reading assessment, namely, 'Reading comprehension,"sight word efficacy,' and 'fluency.'

Ethical Considerations.

In the study, statistical treatment involved calculating the mean of both pre-test and post-test results for learners using the mean. Additionally, the Wilcoxon signed-rank test was employed to assess readers' correct words per minute and fluency skills. interpretation Grade The of learners' reading comprehension and sight-word efficacy was determined using READING LEVELS based on Betts' criteria, while the average grade level, reading speed by measured by interpreting the word count per minute mean score, served as a crucial indicator for assessing the reading proficiency of Grade 2 learners.

RESULTS AND DISCUSSIONS

Table 1. Pre-Test and Post-TestMean Score in ReadingComprehension of Grade 2 Learnersof St. Anne Learning Center

Pre-Test and Post-Test Mean Score in Reading Comprehension of Grade 2 Learners					
	Pre-test Post-test				
Mean Score	41.2	74			
Verbal Interpretatio n	Frustration	Instructional or Frustration			

The reading comprehension mean score was 41.2% which is verbally interpreted as frustration. The post-test overall result of reading comprehension improved to 74% or verbally interpreted instructional which concludes that the intervention

enhanced the reading program comprehension of the learners. The mean score of the pre-test concludes of the learners that most are struggling reading in and understanding the text before taking part in the English Reading Partners program which resulted in their low performance on the test. The post-test shows that learners have improved based on their percentage before the reading intervention. Therefore, the program can support and sustain the learners who are in need to maintain their reading skills. The study of Mohammed and Amponsah (2018), It stated that there are components that exert influence on the ability of the learners to read by comprehending the text which include; a lack of confidence in reading itself, poor motivation from people around them that could stimulate their interest, lack of reading materials, inaccurate knowledge on phonemic awareness of the teacher, and lack in healthy competition among learners in school.

Table 2. Pre-Test and Post-Test Mean Score in Sight-Word Efficacy of Grade 2 Learners of St. Anne Learning Center

Pre-test and Post-test Mean Score in Sight-Word Efficacy of Grade 2 Learners					
	Pre-Test Post-Test				
Mean Score	85	96.3			
Verbal Interpretation	Frustration	Instructional			

This table illustrates the mean score of the learners in the pre-test in terms of sight word efficacy or their ability to recognize the words upon reading the given materials. The mean score of sight word efficacy based on the pre-test result is 85% which is verbally interpreted as frustration based on the reading level criteria of Bett. The mean score implies the learner's ability to recognize the

© 2024 Liwanag et al. ISSN 3028-2179 words from the text that they have read has not fully developed yet. This simply means that the learners are having difficulty identifying the words they have encountered as they are reading the following stories provided on the given pre-test stories. The table illustrated the post-test results of the reading skills of the learners in sight-word efficacy for 96.3% which is verbally interpreted as instructional. The post-test result means the English Reading Partners were able to instruct and improve the learner's ability in reading. Additionally, it implies that the learners develop the ability to recognize the words that they have read from the text after participating in the English Reading Partners program and it was evident on the test papers of the learners where some got a higher score in the after intervention than their score before intervention and some got a perfect score. According to the study of Burke, Grant, & Levitas (2021) that reading intervention gives a primary supplement to boost the struggling readers, given from the intervention models 20% of the learners need supplemental support from the instruction of the intervention while 5% of the learners need intensive or concentrated intervention.

Table 3. Word Count Per Minute of the Grade 2 Learners in St. Anne Learning Center in Pre-test and Post-test

Pre-test and Post-test Mean Score in Fluency of Grade 2 Learners					
	Pre-test	Post-test			
Mean Score	63.9	43.4			

This table illustrates the word count per minute of the learners in taking the pre-test and post-test. The fluency mean score in pre-test is 63.9 and 43.4 in post-test. This table concludes that most of the learners

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got a lot of misread or cannot read words which affect their performance in taking the pre-test that resulted in their low scores. Some of them prioritize finishing the test immediately instead of reading the stories carefully which indicates that learners still need to develop their reading skills specifically in their fluency in reading a text. The table further shows that learners are still learning in decoding the text while learning at their own pace, therefore, the low score result was not resulted by them only wanting to finish the given pre-test but there are also some factors why they came to finish the pre-test such as they became discouraged by how long the stories the pre-test. The post-test from concludes that although the learners during the pre-test finished earlier, they didn't take the test seriously as they were focused on finishing it immediately that is why they got more word count per minute as they only read the stories and not spending time comprehending it resulting to their low scores, while during the post-test the learners spend more time reading slowly and analyzing the stories which resulted to improve their performance and got a highest score in post-test compare to their pre-test. In the in-depth study of Reading Rockets (2023), learner's slow reading can be a strategy whereas they read the material slowly with the intent of improving their reading comprehension and this occurs when they have encountered unfamiliar many words.As correspondence this, Read to Naturally (2023) mentioned that the learners who read slowly tend to understand more what they are decoding rather than learners who read faster but cannot understand the words they are reading.

Table 4. Pre-test and Post-testMean Score

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Pre-test and Post-test Mean Score					
Pre-test Post-test					
Mean Score	10.3	18.4			
Verbal Interpretation	Poor	Very Satisfactory			

This table illustrates the pre-test mean score of Grade 2 learners. The pre-test mean was 10.3 which is verbally interpreted as poor. The table identified that there is a change that happened after the execution of the English Reading Partners, with a mean score of 10.3 or poor. The overall mean score of the learners in taking the post-test is 18.4 which is verballv interpreted as verv satisfactory. The pre-test scores and mean score depict that most of the learners are not proficient in reading and comprehending the provided stories their corresponding and questions resulting in their low scores. Post-test mean score reveal that the level of performance was from poor in the pre-test to very satisfactory showing that the learners' reading comprehension, sight word efficacy, and fluency has improved after participating in the English Partners Reading Program. Aforementioned by the study of Reading Rockets (2023), most of the readers who are struggling are second graders to fifth graders, which is why it is important to build a solid foundation for young learners in reading skills. In the study of Mohammed and Amponsah (2018), it is stated that there are factors that affect the ability of the learners to read and comprehend the text which include; a lack of confidence in reading itself, poor motivation from people around them that could stimulate their interest, insufficient reading materials, poor knowledge on phonemic awareness of the teacher, lack of healthy competition and

among learners in school.

Table 5. The Significant difference between the pre-test and post-test means scores in terms of Reading Comprehension, Sight-Word Efficacy, and Fluency



difference The between the pre-test and post-test in terms of Reading Comprehension is -32.4. The decision rejected the research' null that hypothesis and found the pre-test and post-test in reading comprehension have significant differences. It signifies that the program is successful enough to supplement the learning progress and encourages the students to reach their reading skills optimum level in the post-test implementation. In Sight-Word efficacy, the pretest mean score is 84.9 while the post-test mean score is 96.3, resulting in a difference of -11.4. The data rejected the null hypothesis and accepted significant differences between the pre-test and post-test. The study implies that effective and significant differences would manifest in the learners as they are exposed to the versatility in teaching where learners find it better (Nickow et. Al, 2020). Further, the mean score of Pre-test in the fluency is 63.9 while the post-test mean score is 43.4 which resulted to a -20.5 difference. The difference in the mean

scores is significant and the null hypothesis is rejected. Significant difference depicts that the learners improved and managed to fluently read the texts. This stated learning retention takes place specifically in honing their reading skills even if they are taking their English subject aside from the tutorial program (Arhin, Ampofo, Segbenya, & Segbenya, 2021).

CONCLUSIONS

1. The English Reading Partners improved the reading comprehension and sight-word efficacy of Grade 2 Learners. Nonetheless, fluency is perceived as the outcome of reading a text but not understanding its meaning, which results in poor reading fluency performance.

2. There is a significant difference between the pre-test and post-test mean scores of Grade 2 learners which clearly illustrate that their reading comprehension and sight word efficacy have improved.

3. The feedback of the Grade 2 learners and their teacher demonstrates how the program contributes a significant improvement to the learners' reading skills.

RECOMMENDATIONS

With the overall results of the study, the researchers recommend the following to further strengthen the study and address the gaps identified in this paper.

Strengthen the English Reading Partners

Recommendation 1. Develop the effectiveness of English Reading Partners as a reading intervention program specifically to their reading comprehension, sight word efficacy, and fluency.

Duration of the Program

Recommendation 2. Established an efficient period by allocating the appropriate time and date of conducting the program specifically, duration of the reading the intervention that must be every day and should not be less than four (4) weeks.

Consideration of requiring the College students to conduct the English Reading Partners

Recommendation 3. The Dean of the College of Education and its Department Heads should consider English Reading Partners as a reading intervention program to be treated as part of the student's requirement in a particular course to achieve the aim of the program.

Partnership between the DepEd and CHED

Recommendation 4. The Department of Education and the Commission on Higher Education should mandate a learning partnership between a Third Year College under the College of Education program in any major to allocate at least 1-2 hours twice a week to offer this English reading intervention to the Grade 2 Learners.

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Systematic analysis of instructional models in science: towards the development of an instructional model

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ABSTRACT

Instructional models are essential for addressing the learning sequence of learners. They provide a series of activities intended to attain the learning outcomes while developing prerequisite skills. They are able to develop holistic skills in learners while adhering to learning standards. This systematic literature review discusses the different instructional models used in science. Selection criteria were used to identify articles considered essential for the review. Some of the criteria include being within a 10year span, written in English, containing keywords such as "development" or "instructional design" focusing on science, and displaying a methodology for developing the model. After thorough analysis, the review narrowed down to 15 articles shedding light on the research problem of methodologies used in developing science instructional models. The analysis revealed three common themes: origins (grounds) of the model, essential elements or variables used in obtaining models, and supreme guidelines outlining the the procedures undertaken to develop the model. Six common methodologies were identified among the analyzed articles, synthesized and presented in this review. In light of these results, the review concludes that some models do not properly display methodological procedures for science instructional model development. This review can contribute to model developers by providing insight into how models should be developed using proper methodologies. The outlined methodologies resulting from the review can be adopted in developing science models for instructors, teachers, and other instructional leaders involved in designing learning models.

Keywords: methodology, Science Instructional model, systematic review

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INTRODUCTION

Instructional models are important in providing well sequenced lessons in a systematic manner enabling the process of learning development that are essentials in nurturing critical thinking among learners (Vong & Kaewurai, 2017). To improve the procedures, it is recommended for educators to choose an approach that posters the process and instructions whose goal is to instill critical thinking to students. These models of instructions as emphasized by Hubell (2019) Goodwin and and Chukwuemeka et al. (2020) help teachers in creating learning instructions catering to the recognized learning needs of students making the teaching-learning process more effective. Moreover, according to Ghani and Daud (2018) A wide range understanding of different models anchored to particular contexts is a key ingredient in the effectiveness of In such, problem-based learning. learning models in science class help students in applying critical thinking and solving real world problems, thus scientific understanding is applied.

In their 2020 review. Chukwuemeka et al. examined 15 popular teaching models and found that none of the developed models are suitable for streamlining classroom instructions. However, these models can provide ideas to teachers to enhance the teaching and learning environment, making it more engaging and effective (Chukwuemeka et al., 2020). The creation of instructional models can be traced back to numerous ideas related to teaching and technology integration in elearning, as demonstrated in Byrne's study (2020) on using a model for elearning. Dewi et al. (2018) explored an instructional model in blended learning, while Ibiloye (2024) applied instructional models through blended

learning. Furthermore, Sheth's review in 2021 concluded that instructional models are functional in creating and designing online courses, positively impacting learning. Most instructional models are adapted and modified for improvement, such as the College Science Learning Model (CSLC), which emerged from the 5E instructional model, with elements derived from engagement, exploration, explanation, elaboration, and evaluation, as used Withers (2016). Another bv modification derived from the 5E model is the 7E model developed by Eisenkraft in 2003. This model aims to add value by analyzing learners' prior understanding and making the learning transfer of more Byrne (2020)comprehensive. demonstrated the same principle in developing the 6P4C model, derived from instructional model frameworks like the ASSURE model. ADDIE instructional model, and SAMR model.

Different models provide distinct skills for development. Silva et al. (2012) developed a model aimed at enhancing students' academic and translational language required for engaging in science discourse. Ellis (2016) tested a model with the purpose identifying and emphasizing of creativity as a central component essential for developing higher-order skills. Langkudi (2018)thinking designed a model to foster the development of thinking skills. The cultivation of essential skills is intrinsic to 21st-century learning, often involving the refinement of critical thinking skills.

Saido (2015) asserts that the primary goal of science education is to nurture students' critical thinking through higher-order thinking skills. In a study conducted by Muhibbuddin et al. (2023), it was found that higherorder thinking skills, such as the ability to pose scientific questions,

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significantly enhanced critical thinking abilities. Post-test results revealed an improvement in mean scores, with the experimental group demonstrating a notable increase of 2.12, in contrast to the control group's mean score of 0.22.

In a comprehensive review, Santos (2017) observed that critical thinking is not fully facilitated in science education, attributing this deficiency to the uncritical application of critical thinking within the science curriculum. Saenab et al. (2020) emphasize the urgent need for an expanded approach to teaching, with a specific focus on models that underscore critical thinking in science Rogers (2023) education. further critical thinking, elaborates on identifying it as a persistent challenge in science education. The critical thinking as a guiding tool for teachers in making informed decisions, leading to the creation of diverse instructional models needed to the varying demographics of students.

The most prevalent instructional model associated with science education is the learning cycle in the inquiry method, such as 3E, 5E, 7E, and 9E. These models often align with the theory of constructivism, enabling the application of inquiry methods (Nicol et al., 2020). Bell (2014) expounded on the Next Generation Science Standards, which formulates the science curriculum. It articulated that there is no single or specific instructional model; rather, multiple models are necessary to implement learning goals in the science curriculum.

The purpose of this review and analysis of the development of instructional models in science is twofold: (1) to identify the categories or criteria that guide the development of instructional models in science and (2)

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to consolidate the procedures or methods used by studies, leading to the creation of a methodological framework specifically designed for science. This framework is intended for model developers, particularly those focused on science curriculum, including teachers. curriculum experts, and practitioners. Such a guide or methodological framework in development would clarify the rules and requirements in instructional model development in science education. This will serve as an avenue or gateway for an exchange of ideas experts and scholars. among contributing to the advancement of instructional model practices

METHODOLOGY

The study used databases such as ERIC, Google Scholar, and Emerald Insight as the initial process of providing relevant literature. Keywords such as "Instructional Model Development" and "Developing Instructional Design" were employed in looking for articles. The search criteria included the use of a database with specific filters. The inclusion criteria for the initial review of articles were that they should exist between the years 2014-2024 (covering a 10year span), have open access, be written in the English language, and published in a journal. These criteria resulted in a total of 1046 articles.

A second screening was conducted, reviewing the abstracts and keywords of articles containing the term "development." A total of 100 articles were incorporated based on this screening. For quality screening of the and keywords, abstracts the researcher examined the methodology, specifically looking for details such as stages or phases, the process, and the developing approach of science instructional models. Articles that appeared in multiple databases were

omitted, resulting in a final selection of 15 articles focused on the development of instructional models in science education. All inclusion criteria in selecting literature aimed at analyzing the methods used in developing instructional models intended for science education.

Figure 1 illustrates the flow of the literature selection process for the review.



Analyzing the literatures on Instructional model development in science education

After the final selection of papers to be included in the studies, the researcher coded the literature was coded and commenced analyzing the categories that set each instructional model apart from one another was commenced. During the review of literature or studies, the researcher scrutinized the features of models, the types of methods applied, and the phases undergone for their development were scrutinized. It emerged that each Instructional Model (IM) could be categorized according to three core aspects: (1) its development, including the ground of development;

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(2) the applied approach; and (3) the system of development.

Moreover, all literatures in terms of model development resulted in one purpose of their development. It can be reasoned out because of its served purpose for science education. The core purpose of model development in science education revolved around the scientific literacy in inquiry method combined with constructivist theory for 21st century skills such as critical skills thinking development thru higher order thinking skills. This purpose is common among all literature analysis which was anchored to the science process skills agenda.

Ground of model development

As further analysis was conducted on the selected literatures. The 'ground of model development' refers to the foundational basis upon which the model is created. This core aspect can divided into two categories: he literature-based and field-based grounds. In the context of this study, literature-based models are those grounded in a particular literature or theory related to the subject, such as science education. The review identified 8 eight papers categorized as literature-based models. On the other hand, field-based models are derived from direct phenomena experienced by the subjects, such as teachers. These models often stem from challenges encountered in the teaching and environment. learning becoming driving forces in their development. In total, 7 seven field-based models were identified in the selected literatures.

Approach applied in model development-Essential elements

The term 'approach applied' refers to the method implemented to develop a model. In the selected literature, various approaches were identified:

- 1. Design & and Development: This approach involves an investigation of design. development, and evaluation processes within an empirical basis for the development of instrumental and noninstrumental products, tools, and new or improved models. The progress is outlined through the necessary processes of describing, analyzing, and evaluating a product, such as a model or tool (Richey & Klein, 2008).
- 2. Research and Development: According to Gustiani (2019), this method purposefully validates educational products and is educational applied in practitioners' practices for designing instructional models. It is also employed by specific fields organizations aiming or to develop and improve their existing products or services with the ultimate goal of societal improvement.
- 3. Mixed Method: Gallant & Luthy (2020) explain that this is a systematic inquiry that collects and integrates several viewpoints using combined qualitative and quantitative data. The suggested stages include (a) initial model development based on experience, (b) applying Delphisurvey technique with experts (quantitative and qualitative data), (c) revising the model according to the results of the Delphi survey, (d) pilot testing (interviews with participants concerned model in development), and (e) revising the model.
- 4. Quantitative Phenomenology: Bonyadi (2023) stated that this method is applied in an educational context to explore the essence of a specific phenomenon

from the perspective of individuals who have an in-depth understanding of it.

5. Instrumental Case Study: This approach is applied to gather insights into an issue, modify generalizations, or function to restructure a theory using an extension of experiences (Nolin, 2019).

In the literature review, three literatures used the design and development approach, two used mixed methods, five employed research and development, one used quantitative phenomenology, and two applied instrumental case study. Additionally, two literatures did not specify a particular approach in their development. This model varied approach in the literature review provides essential elements such as model prototype, implementation system, evaluation, and revision, gathering feedback.

Supreme guidelines in instructional model development

System of model development is related to the scheme of creation applied in the model. There are 2 two models of development used in selected literatures. First are the three literatures facilitating the Gall and Borg model of development, Sunvoto et al., (2020) explained that this model of development in educational context is used to develop and validate the product of education. Furthermore, its output is not relying only on existing products but in seeking answers to a problem upon using the product that serves as an evaluation tool. This system of model development is composed of four (4) main characteristics. (1) Working out with initial study to develop a product, (2) developing a product based on the result of initial study, (3) Field testing or pilot implementation of the product,

© 2024 Piche M. Z. & Montebon, D. T. ISSN 3028-2179 (4) evaluating the effectiveness of the product and revising it. Three literatures used the Plomp model of development. According to Rosmiati et al., (2016) wherein an adaptation of plomp model was implemented in the study it is composed of 5 major steps (1) Initial investigation, (2) design, (3) process of creating, (4) evaluation, (5) Implementation of the model. Likewise, a numerous number nine out of fifteen literatures appeared to be no system of model development is This svstem utilized. of model development can be combined to form a principal guideline that form ruling in developing IM (Instructional Model). The basic components such as (a) Initial investigation, which aims to find a phenomenon, theory, or literature model. ; the about (b) Model development, creating model а prototype or using an existing model.; and (c) Carrying out the model, the deployment of the model either to a small scale or large-scale system.

System of development

The system of development critical core aspect refers to how model builders used, implement, combine, and put into practice the set of information obtained arriving in a model. The set of collected data can be arranged in multiple orientations according to a definite set of guideline analysis. As added by Lee & and Jang (2014) in their analysis scheme that data can be organized using their array heuristic design and of functions. As the data continues to organize a pattern of design will show up and the system for analysis will be visible. In this way, the builder of the model or developer gains a closer further examine insight to and relatively see information that later helps in developing the model. Furthermore, system development is able to produce design patterns in a heuristic manner that is reflected by

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the disposition of the developer, it begins in a simplest way headed to a more complex analysis.

Table 1 Comb	ined con	re asj	pects for			
instructional	model	for	science			
education (GES analysis)						

Ground	Essential	Supreme
	Elements	Guidelines
G1-	E1-	S1- Initial
literature	Literature	Investigati
base	or Theory	on
G2-Field	E2- Field	S2-collection
Base	Experienc	of
G1+G2=Hyb	es	informatio
rid	E1+E2-	n
	Combine	S3-Model
	d	developme
	Literature	nt
	and field	S4-carrying
	experienc	out model
	es	
	E3-Creating	
	New	
	model	
	E4-Using of	
	Existing	
	model	
	E5-Applying	
	model	
	into	
	learning	
	material	

Table 1 is a summary of a combination of core aspects for the instructional model for science education. The core aspects contain ground. essential elements. and guidelines This supreme (GES). pattern is utilized to establish a pattern system function or of development intended for science education.

System Model	Supreme Guidelines	Procedures
A. G1-E1-E3-E5 Using Literature base ground model in elements of literature	Initial Investigation	 Finding literature or a theory about a particular science education related issue.
or theory in IM. Bandrun, et al., (2021) Syahri et al., (2021)	Collection of information	2. Examining the related literature or theory about the science education related issue.
Elwood and Jordan – 2022	Model development	3. Create a prototype model out of literature or theory, turning model using relationship among variables and representing it thru graph. forming a conceptual model.
	Carrying out the model	4. Applying model in teaching- learning materials.
B. G2-E2-E3-E5 Using field experiences ground model in element of	Initial Investigation	1. Finding relevant experiences about a particular science education related issue.
field experiences in creating IM.	Collection of information	2. Coding the experiences about a particular science education related issue.
Novitra et al., (2021) Saido et al., (2018) Suastra et al., (2021)	Model development	3. Creating a protype model out of field experiences using relationships among variables and representing it thru graph forming a conceptual model.
	Carrying out the model	4. Applying model in teaching- learning materials.
C. G1+G2-E1+E2-E3-E5 Using both literature and experience-based ground models in elements of both	Initial Investigation	1. Finding relevant literature and experiences about a particular science education related issue.
experience in creating IM. Limatahu et al., (2018) Waluuo et al. (2021)	Collection of information	2. Examining the related literature or theory and experiences about the science education related issue
Nonthamand (2020)	Model development	 3. Creating a prototype model out of literature or theory and field experiences using relationships among variables and representing it thru graph forming a conceptual model.
	Carrying out the model	4. Applying model in teaching- learning materials.

Table 2 Integrated procedures for Science Instructional model development

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System Model	Supreme Guidelines	Procedures
	Initial Investigation	1. finding relevant literature about a particular science education
D. G1-E1-E4 Using literature ground model in element of literature in creating modified model.	Collection of information	related issue.2. Look for the developed model and its suitability to the issues being observed
Kim et al 2022 – Han & Shim (2019) Lee & Hong (2023)	Model development	 Test its usability by employing a reliability test to the current situation. Revised the model if needed in order to recreate it. Used the relationship among variables and represented it thru graph forming a conceptual model.
	Carrying out the model	 Applying model in teaching- learning materials.
E. G2-E1-E4	Initial Investigation	1. Finding relevant literature and experiences about a particular science education related issue.
Using field-based ground model in element of field experiences in creating modified IM.	Collection of information	2. Look for a developed model and its suitability to the phenomenon being observed.
Saenab et al 2020	Model development	 Test its usability by employing a reliability test to current phenomenon. Revised the model if needed to recreate it. Used the relationship among variables and represented it thru graph forming a conceptual model.
	Carrying out the model	5. Applying model in teaching- learning materials.
F. G1+G2-E1+E2-E4 Using field based and Literature based ground models in elements of field experiences and literature in creating modified IM. <i>Chaeruman et al. (2020)</i> <i>Clores and Nueva España</i> <i>(2023)</i> <i>Şen Akbulut and Hill (2020)</i>	Initial Investigation	1. Finding relevant experiences about a particular science education related issue.
	Collection of information	2. Look for a developed model and its suitability to the phenomenon and issues being observed.
	Model development	 Test its usability by employing reliability tests to current phenomena. Revised the model if needed to recreate it. Used the relationship among variables and represented it thru graph forming a conceptual model.
	Carrying out the model	5. Applying model in teaching- learning materials.

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ELB Y

RESULTS AND DISCUSSIONS

After a series of analyses conducted by the researcher on the selected literature pertaining to instructional models developed for science education, three core aspects and six integrated procedures were identified as the system for instructional model development in science. Following a thorough reflection on the findings, various discussions were derived.

The core aspects and system for instructional model development

The core aspects of the established instructional system for model development can be adopted by future instructional model developers for their projects or design studies. The first core aspect is the ground, which refers to the origin or foundation of creating the model. The second core aspect is the essential elements, encompassing the crucial features of each phase in the model that was enabling developers analyzed. to formulate their own models based on the literature used. The last core aspect is the supreme guidelines, rooted in the methodological approach employed by researchers and their developmental methods.

In the process of integration, understanding and processing the data require a structured development process to ensure the creation of a model grounded in evidence. Future researchers are free to choose a system that aligns with their expertise and data availability.

The Science Instructional model and its purpose

Furthermore, the data obtained must be carefully set and obliged to the community standards and ethical standards of conducting research. It is a must for data to be obtained reliably

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and valid. It will be a good and beneficial design if the gathered data and the model developed was addressed in such a way that it serves its purpose. Like science education, in analysis it states that all models for science education have a purpose of developing 21st century skills, the inquiry method, higher order thinking skills, and anchored to constructivist theory. With this a purpose of model development serves its differences among others.

In the Philippine context, the purpose of K-12 is to develop holistic learners who are job-ready and in the process of developing and applying 21st-century Century skills. Furthermore, develop to Filipino learners globally competitive with its neighboring ASEAN countries via standardized education (SEAMEO, 2020). Agnes et al. (2022) emphasized the importance of the instructional design model as a contributor to an effective teaching-learning situation. However, the analysis focuses on three emerging instructional design models: the nine events of the instructional model Robert bv Gagne, the Instructional theory into practice model by Madeline Hunter, and 5E's learning model cycle by Rodger Bybee. The analysis revealed that the four instructional events are prominent in the learning plan: review, motivation, presentation, and assessment. Furthermore, there is no prevailing instructional design model that conforms to the utilization of the K-12 program. This implies how instructional events executed bv teaching affect the sequence of learning patterns. Therefore, it is recommended to revisit the curriculum and provide an overview of the instructional design model's input to improve implementation.

The purpose of the curriculum reflects what it requires to achieve and

to achieve this purpose, a systematic deployment to the learning and teaching process must be presented. An instructional model anchored to the purpose of the curriculum is essential. As the Philippines is continuously improving its curriculum lining up to globalization, it must look at its implementation and model to make a standardized education and effective and synchronized instruction available to learners. With this, a potential improvement and change in education might take place.

The validity of the model

model validation, teachers' In perceptions and problems can be variables that establish firmness. By looking at the teachers' experiences with the unique features and goals of a implementation, curriculum's its validation can be established. Further testing and observational tests should be considered when implementing curriculums. Furthermore, it is recommended to develop a curriculum with a goal driven to the development of an instructional design model particular to the needs of science instruction in the Philippines with its goal of accelerating science education in helping to steadfast the large-scale assessment helping the Filipinos to champion the future of the educational landscape. The literature shows that several validations are conducted upon implementing a model. It would be better if numerous studies were conducted to test the model's reliability and validity for a long time regarding the changing educational landscape.

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Hambingang-Suri sa Kurikulum ng Programang Edukasyong Pangwika-Filipino ng mga Piling Pamantasan sa Maynila

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ABSTRAK

dekalidad at matayog na edukasyon ay ang Ang pagkakaroon ng epektibong kurikulum. Ang matapat na pagsasaayos at pagdidisenyo ng kurikulum ay nagsisilbing esensiyal na sangkap sa paglikha at pagtataya ng kontekstong nag-uugnay sa mabisa at hindi mabisang dulog, praktika, at estratehiya. Natasa ang kahalagahan ng programang edukasyong pangwika sa Filipino ng mga nagnanais magpakadalubhasa bilang mga guro sa Filipino sa panahong hindi napagtutuonan ng pansin ang kahalagahan ng kurikulum na ito. Kaya naman upang matugunan ang kakulangan na ito, nilayon nang pag-aaral na magsagawa ng pagsusuri sa programa at bumuo ng modelo ng hambingang-suri. Naging batayan ang mga sa mga piling Pamantasan sa Maynila na nagbibigay ng degri sa kadalubhasaan sa edukasyong Filipino. Inalam ang kabisaan ng hambingang-suri sa pamamagitan ng pakikipagpanayam sa mga mag-aaral, guro, at alumni ng mga Pamantasan. Lumabas na naging epektibo ang modelong hambingang-suri bilang isang modelo ng pagsusuri ng isang kurikulum ng programa sa larangan ng edukasyon.

Mga Susing Salita: Filipino, kurikulum, hambingang-suri, Maynila, programang pangwika

ABSTRACT

The quality and high standard of education entail having an effective curriculum. Conscientious arrangement and design of the curriculum serve as essential elements in creating and evaluating contexts that link efficient and inefficient approaches, practices, and strategies. The importance of the language education program in Filipino is recognized by those aspiring to excel as Filipino teachers at a time when the significance of this curriculum is often overlooked. Therefore, to address this deficiency, the study



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aimed to conduct an analysis of the program and develop a comparative assessment model. Selected universities in Manila that offer degrees in Filipino education served as the basis. The effectiveness of the comparative assessment model was examined through interviews with students, teachers, and alumni of these universities. It emerged that the comparative assessment model was effective as a framework for evaluating a curriculum program in the field of education.

Keywords: comparative language program; Manila INTRODUKSYON

Salamin ng dekalidad at matayog na edukasyon ang pagkakaroon ng epektibong kurikulum. Ang matapat na pagsasaayos at pagdidisenyo ng kurikulum ay nagsisilbing esensiyal na sangkap sa paglikha at pagtataya ng kontekstong nag-uugnay sa mabisa at hindi mabisang dulog, praktika at estratehiya. Tinatasa ng pag-aaral na ito ang kahalagahan ng pangwika-Filipino programang ng mga nagnanais magpakadalubhasa bilang mga guro sa Filipino sa pamamagitan nang pagsisipat-suri sa pamantasang nagbibigay mga ng degri kadalubhasaan sa sa edukasyong Filipino bilang pagpapalakas sa programa sa panahong hindi napagtutuunan ng kahalagahan pansin ang ng kurikulum na ito.

Sa pag-aaral na isinigawa ni Peña inilarawan niya (2023),ang edukasyong Filipino bilang lunsaran ng kaalaman sa antas ng kolehiyo at midyum ng panturo sa sistema ng edukasyon. Nasipat niya ang kahalagahan ng teksbuk sa larangan at proseso ng pampagkatuto at pampagtuturo ng mga kaguruan sa kursong Filipino. Mula rito, ang pagsasagawa masusing ng ebalwasyon ng isang kurikulum ay nagpapaunlad holistikong sa pagtataya na nagiging matibay na sandigan ng isang estandardisado at intelektuwalisadong pamamaraan ng edukasyon. Dagdag pa rito, sinasabing ang mga guro ay nakatuon

ative analysis; curriculum; Filipino;

sa paggamit ng mga pagpapahalaga at kulturang Filipino sa kanilang mga aralin (Tangonan, R. B., Villanueva, V. M., & Zamora, N. A. C. L., 2016).

Sa bisyon na maiangat ang lebel pagpapabuti sa kalagayang at pang-edukasyon ng bansa, ikinasa ang Batas Republika Blg. 7784, nagtatakdang magtatag ng mga Center of Excellence (COE) sa bansa. Nilalayon nitong kilalanin ang mga institusyong mangunguna sa patuloy pagpapaunlad ng iba't ibang na programang pang-akademiko kabilang edukasyong na ang pangguro. Kadikit ng pagkilalang ito ay ang mga kaakibat na benepisyong nagmumula sa pamahalaan at mga sektor nito. Sa ngayon, iisa pa lamang (Manzano, 2018) ang nagtangkang saliksikin ang kaligiran ng ginawang pagtatakda ng CHED sa mga kwalipikadong institusyon ng edukasyong pangguro sa bansa bilang COE na nakatuon sa pangkalahatang kurikulum. Samantala, ang mga nagawa nang pag-aaral kaugnay ng programang pangwika-Filipino av pangkalahatang nakatuon sa kurikulum 0 General Education Curriculum (GEC).

Binigyang-tuon ng pag-aaral na ito ang pagsusuri sa mga umiiral na kurikulum programang sa edukasyong pangwika-Filipino sa mga napiling institusyong pangguro pang-edukasyong Maynila na pasok sa pamantayang ibinaba ng Komisyon sa Lalong Mataas na Edukasyon.

- 1. Mabakas kung kailan nagsimula ang programa sa Pamantasan at bakit ito naipatupad.
- 2. Mailarawan ang tunguhin ng programang edukasyong pangwika sa Filipino hinggil sa umiiral na kurikulum ng bawat Pamantasan.
- 3. Maisa-isa ang programa ng edukasyong pangwika-Filipino ng mga piling Pamantasan na nagbibigay degri ng sa kadalubhasaan sa edukasyong Filipino Maynila sa sa pamamagitan ng pagsasagawa hambingang-suri ng sa kurikulum ng programa kung ang mga ito ay nakasalig sa pamantayang ibinaba ng Commission on Higher Education (CHED).

METODOLOHIYA

Nabibigyang-balidasyon ang mga na datos nakalap gamit ang trivangulasyon sa pamamagitan ng cross verification na mula sa higit sa dalawang mga sanggunian. Sa pananaliksik na ito, gumamit ng dalawang uri ng triyangulasyon: ang (1) method; at, (2) data source. Binigyang-diin nina Polit & Beck (2013) na sa paggamit ng metodong triyangulasyon, nangangailangan ito maramihang ng metodo sa pangangalap ng datos tungkol sa isang penomena (sinipi kay Carter, 2014). Samantala, ang data source triangulation naman ay may pangangailangan na mangalap ng datos mula sa iba't ibang uri ng tao, indibiduwal, pangkat, pamilya, at komunidad, upang makakalap ng iba't ibang perspektiba at pagpapatibay ng datos (Carter, Lukosius, DiCenso, Blythe, & Neville, 2014). Ang nakolektang mga opinyon, atityud, at praktika na magmumula sa stakeholders ay may esensiyal na

kontribusyon sa pagpapaunlad ng kurikulum. Ang mga mananaliksik ay nangolekta ng parehong kwantitatibo at kwalitatibong datos at susuriin ang mga datos upang matukoy kung may pagkakatulad, pagkakaiba, o kombinasyon (Cresswell, 2014).

Disenyo ng Pananaliksik

Deskriptib-debelopmental ang pananaliksik sa pag-aaral na ito na may layuning masuri at mailarawan kurikulum ng programang ang edukasyong pangwika-Filipino ng mga piling Pamantasan sa Maynila na may programang edukasyong pangguro na kabilang sa itinakda ng Komisyon sa Lalong Mataas na Edukasyon. Sa elusidasyon ni Hopkins (2013), bahagi ng deskriptibong pananaliksik ang pangangalap datos ng na naglalarawan ng mga pangyayari na susundan ng pag-organisa, pagtatala, at paglalarawan ng mga nakolektang datos.

Populasyon at Sampling Teknik

mananaliksik Ang mga av gumamit ng non-probability sampling partikular na ang *purposive sampling*. Mula sa populasyon, kumuha ang mananaliksik ng sampol kung saan ito ang paghahanguan ng datos na pananaliksik. kinakailangan sa Nakuha ang mga datos mula sa mga kalahok mula sa mga sumusunod na pamantasan: (a) Philippine Normal University - Maynila, (b) Pamantasan Lungsod ng Maynila, at (c)na Politeknikong Unibersidad ng *Pilipinas-Maynila*. Nagmula ang datos sa mga mag-aaral na kumukuha ng programang Batsilyer sa Edukasyong Pangwika – Filipino maging ang kanilang guro, mag-aaral, at alumni gamit ang sarbey at metodong document analysis.

Sa pananaliksik na ito ay pinili ang mga pamantasan na kabilang sa mga kwalipikado sa programang

Edukasyon na itinakda ng Komisyon sa Lalong Mataas na Edukasyon at sinuri ang mga kursong nakapaloob programang Edukasyong sa Pangwika-Filipino. Mula sa mga nailista at nasuring pamantasan, tatlo tumugon (3)ang at sumang-ayon na maging kalahok sa pananaliksik mula sa pamantasang pampamahalaan sa Maynila. Samantala, purposive sampling naman ang ginamit sa pagpili ng mga kalahok sa isinagawang sarbey gamit ang talatanungan na naglalaman ng *likert scale*. Sa bahaging ito, ang mga naging kalahok ay mga guro na mula sa mga napiling pamantasan sa Maynila na kwalipikado sa pagkakaroon ng edukasyong pangwika-Filipino. Gayundin, kinikilala rin ng mga mananaliksik ang katotohanan na ang mga kalahok pinili pamamagitan na sa ng *purposive sampling* ay maaaring hindi maging representasyon ng kabuoang populasyon, subalit ang mga datos na makukuha mula sa kanilang mga tugon ay makatutulong upang bigyan ang mga mananaliksik ng mas malalim na pag-unawa sa pananaw ng mga kalahok tungkol sa umiiral na kurikulum kanilang sa mga pamantasan. mga Ang naging kalahok sa isinagawang sarbey ang sivang nagsilbing kalahok sa ginawang panayam upang mapunan ang kinailangan pang datos at impormasyon.

Pangangalap ng Datos

Ang mga mananaliksik ay gumamit ng sarbey sa porma ng talatanungan nagsilbing na pangunahing datos sa pagsasakatuparan ng pananaliksik. Isinagawa rin ang panayam upang magsilbing pagpapatibay sa mga datos na nakalap mula sa sarbey. Ang mga naging sangkot sa pagsagot ng nasabing talatanungan at panayam ay ang mga piling mag-aaral at guro

ng mga pamantasang kalahok sa pananaliksik. Sa unang bahagi ng talatanungan makikita ay ang liham-pahintulot para sa mga kalahok na naglalaman ng kaligiran at layunin ng pananaliksik. **Binigyang-diin** dito na ang pananaliksik ay isang deskriptibo-debelopmental na pag-aaral na naglalayong makapagsagawa ng komparatibong analisis ng kurikulum ng programang edukasyong pangwika-Filipino ng mga piling Pamantasan sa Maynila.

Ginamit sa pag-aaral na ito ang pag-aanalisa modelo ng ng dokumento o document analysis ni Glenn A. Bowen (2009). Sa tulong ng modelong ito, maipakikita ang pagkakaiba-iba at pagkakatulad ng sinusuring dokumento mga sa kwalitatibong pagsusuri at pamamaraan. Samantala, may mga klasipikasiyon ang talatanungan at mga tanong sa panayam: 1) para sa mga guro; at 2) para sa mga mag-aaral ng mga kalahok na pamantasan. Ang bawat klasipikasiyon ng talatanungan ay nahahati sa apat na bahagi at naglalaman ng mga katanungan. Ang bahagi ay nakatuon unang sa personal na pagsusuri sa nilalaman ng programa o kurikulum. Ang ikalawang bahagi ay naglalaman ng katanungang nakatuon mga sa kanilang sariling persepsyon pagdating sa mga naging danas sa kanilang umiiral na kurikulum sa pamamagitan ng paglalarawan sa pamamaraan ng pagtuturo at pagkatutong natatamo sa bawat kurso na naggsisilbing batayan ng pag-unawa at pagtukoy sa mga epektibong pamamaraan ng bawat Pamantasan. Ang ikatlong bahagi naman ay nakatuon sa pansariling pagtataya sa programang edukasyong pangwika-Filipino ng pamantasang kinabibilangan sa pagbabangga nito sa Kalatas Blg. 30 s. 2004 ng Komisyon ng Mas Mataas na

Edukasyon: *Revised Policies and Standards for Undergraduate Teacher Education Curriculum.*

Sa huling bahagi ng talatanungan, sinisipat nito ang estratehiya ng programa sa Edukasyong Pangwika-Filipino kung sumasabay ito sa ikadalawampo't isang siglong pampagtuturo at pampagkatuto. Sa nabuo namang mga katanungan para sa panayam, naging kaparalel ito ng pamamagitan sarbev sa ng pag-aangkop ng mga tanong na umakma sa panayam kung saan naging sandigan ang pangkalahatang konseptong nais suriin ng pananaliksik na nagsilbing matibay na hanguan ng datos para sa mga mananaliksik. Sa tulong ng propesor sa larangan ng kurikulum at sa larangan edukasyong ng pangwika-Filipino, masusing sinuri at sumailalim sa balidasyon ang mga nasabing talatanungan upang obhetibong mataya content ang *validity* at *face validity* nito.

Pagsusuri ng Datos

Para sa datos na nakuha mula sa interbyu, gumamit ng coding upang masuri at mabigyang-kategorya ang mga impormasyong nakalap. Ayon kay Gibbs (2014), ang coding ay paraan pag-indeks ng 0 pagkakategorya ng teksto upang makabuo ng balangkas ng mga tematikong ideya. Ang pagsailalim ng datos sa prosesong ito mga av nakatulong sa mga mananaliksik upang magkaroon ng sistema tungo sa organisado at mahusay na pagsusuri. Mula sa sarbey, gumamit ng descriptive statistics partikular na ang pagkuha ng *central tendency*. Ang descriptive statistics ayon kay Diño (2013)ay isang istatistikal na pamamaraan na nagbibigay ng simpleng deskripsiyon at buod ng mga impormasyon na nakuha mula sa mga datos. Sa central tendency, lulutang ang mga importanteng impormasyon kalaunan na ay gagamitin sa pagkukumpara nito sa ibang kalahok. Ito naman ay isang paraan ng *descriptive statistics* kung saan ibinibigay nito ang central base sa mga datos na nakuha (Hayes, 2022). Sa loob ng *central tendency* ay makukuha ang mean, median, mode. *mean* ay impormasyon na Ang nagpapakita na kabuuang *average* ng mga datos na nakalap. Ang median naman ay ang gitna o sentrong impormasyon mula sa datos na nakuha sa instrumento. Ang huli naman ay ang *mode* kung saan pinapakita nito ang pinakakaraniwang sagot ng mga kalahok sa ibinigay na sarbey ng mga mananaliksik (Diño, 2013).

Etikal na Konsiderasyon

Nagpadala ng liham-pahintulot mananaliksik sa mga ang mga dekano/guro ng bawat kolehiyo ng edukasyon ng mga pamantasang kalahok sa pag-aaral upang maisagawa ang interbyu at sarbey. Nakipag-ugnayan ang mga mananaliksik sa mga kalahok na mga mag-aaral, guro, at alumni upang kanilang makuha ang iskedvul maging ng kanilang mga mag-aaral na magsasagot ng sarbey.

Sa pamamagitan ng mga liham-pahintulot, ipinaalam sa mga kalahok ang sumusunod: 1) mananatiling kumpidensyal ang lahat ng datos na kanilang ilalahad at pananaliksik tanging sa lamang gagamitin; 2) ang mga datos na makakalap ay eksklusibo lamang sa mga mananaliksik at hindi ibubukas sa publiko; 3) maaaring magkaroon ng tuwirang sipi sa kanilang mga sagot; 4) sa pagtatapos ng papel-pananaliksik, agad itong ipababasa sa mga guro upang malaman ang naging resulta; 5) at dahil boluntaryo ang paglahok sa pananaliksik, maaari nilang ipawalang-bisa kanilang ang

pahintulot ng paglahok sa oras na kanilang naisin. Pinalagdaan din sa kanila ang huling bahagi ng liham upang magsilbing patotoo ng kanilang pagsang-ayon.

RESULTA AT DISKUSYON

Ang mga nakalap na mga resulta ng mga mananaliksik ay maaaring pambansa iugnay sa at pandaigdigang perspektiba. Natukoy ang kahinaan at kalakasan ng umiiral programang Edukasvong na Pangwika-Filipino ng mga piling Pamantasan sa Maynila mula sa mga Pamantasang Pampamahalaan (SUCs) sa pamamagitan ng pagbabangga nito sa susing resulta ng erva (key result areas) na pinalalakas ng komisyon partikular Epektibong ang Organisasyonal Pag-unlad na (Effective Organizational Development) ng programa at kurikulum ng mga piling pamantasan sa Maynila na nagbibigay ng digring medyor at sa kadalubhasaan Filipino. Ang naturang metodo at proseso ng pag-aaral av naging komprehensibo at gamit ang pleksibol na modelo ng hambingang-suri sa pag-aanalisa ng dokumento (document analysis) ay nakikitang pinakaakma ang sa katugunan ng mga layunin ng programa.

Iminumungkahi ng mga mananaliksik na gawing saligan ng programa ang sektoral mga na layunin ng Komisyon sa Mataas na Edukasyon gamit ang susing resulta ng erya o key result areas (KRAs) partikular ang panlimang bilang na Epektibong Organisasyunal na Pag-unlad (Effective Organizational *Development*) sa mga pamantasang pampamahalaan (SUCs) ng CHED na kinakailangang sa pagtuntong sa makabago at modernisadong anyo ng pagtuturo at pagkatuto upang ganap na matamo ang mataas na lebel ng literasi, komunikasyon, numerasi, kritikal na pag-iisip at ilan pang mga

kasanayang lumilinang sa mataas na anyo ng pagkatuto (Artikulo 4. Seksyon 6, Kalatas Blg. 30 s. 2004) kinakailangang magsagawa ang mga pamantasan ng pagrerepaso ng kurikulum na tumatalima sa kahingian panahon ng (Batas Republika Blg. 7722).

Batay sa resulta ng pag-aaral, maaaring makapag-ambag ang hambingang modelo sa iba pang mga programa at espesyalisasyon sa mga Pamantasan sa bansa gaya ng Araling Panlipunan, Agham, Sipnayan, Ingles, at Edukasyon sa Pagpapakatao.

KONGKLUSYON

Ang pag-aaral na ito ay nilayon na magsagawa ng hambingang-suri sa programang edukasyong pangwika sa Filipino ng mga piling pamantasan sa Matapos Maynila. ang masusing pagsusuri sa mga datos na nakalap, naitatag ng mga mananaliksik ang buod ng pag-aaral, mauuri ito sa apat na resulta: (1) Nabakas ang pagsisimula ng programa sa piling pamantasan at pagsipat pabalik sa kung bakit kasayasayan ito naipatupad at naitatag. Dagdag pa rito, (2) nasuri ng mga mananaliksik na walang pasulat na dokumento ang pagbabagong anyo ng kurikulum ng ilang mga programa na umusbong sa nabuong modelo ng mga modelo mananaliksik na sa hambingang-suri na isang mungkahing modelo sa pagsusuri ng iba pang mga espesyalisasyon sa larangan ng edukasyon; (3) lumitaw na sa naisagawang hambingang-suri sa mga programa ay naging epektibo itong gamitin para pataasin ang pagtuturo-pagkatuto at maging linyado ang pagbuo ng kurikulum ng programa. Panghuli, natukoy na ang pagkakaiba-iba ng mga programa ng edukasyong pangwika sa Filipino sa pamamagitan ng nabuong modelo ng hambingang-suri ng mga mananaliksik epektibo ay sa

pagsusuri ng kurikulum ng isang programang pang-edukasyon na makikita sa naging resulta ng pagsusuri sa mga naging kalahok sa pag-aaral.

REKOMENDASYON

Para sa mga mag-aaral na nais magpakadalubhasa sa programang edukasyong pangwika sa Filipino, iminumungkahi ang sumusunod: magsagawa ng pagtataya sa mga pamantasang nagbibigay ng naturang programa kung ang nais ituro sa hinaharap ay nakapokus sa Sekondarya o sa parehas antas ng pag-aaral; maglaan ng sapat na oras sa pagsasaliksik sa mga pamantasang pampamahalaan partikular sa Maynila kukuhaning kung ang programa trimester (tatlong ay semestral termino) (dalawang 0 semestre) sa kada taon.

Para guro/fakulti, sa mga pasulat kinakailangan ng na dokumento bilang katibavan sa pagbabagong anyo ng kurikulum ng programa; paglalakip sa mga silabus ng misyon, bisyon, at pilosopiya ng mismong programa; at pagbuo ng mga pedagohikal na estratehiya sa pagtuturo mga kurso ng sa programang edukasyong pangwika sa Filipino na hindi lamang nakakulong sa isang pag-aaral - wika, panitikan, at bayan.

Para sa mga tagasulat ng kurikulum, maaaring ikonsidera ang nabuong modelo ng hambingang-suri sa pagsusuri sa kurikulum ng iba pang espesyalisasyon sa larangan ng edukasyon; makabuo ng mga lagakan ng dokumentong aksesibol sa masa partikular na ang mga mag-aaral at guro na nagpapakadalubhasa sa programa sa larangan ng edukasyon.

Para sa mga mananaliksik sa hinaharap, mungkahing ilapat ang nabuong modelo ng hambingang-suri sa iba pang espesyalisasyon sa larangan ng edukasyon upang masuri at masipat ang mga adbentahe at disabentahe sa kurikulum ng bawat programang kinakailangang mabigyan ng solusyon.

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Kapakinabangan ng Pasyong Mahal sa Pagpapanatili ng Kultura sa Bayan ng Bulakan

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ABSTRAK

Ang pananaliksik na ito ay naglalayong matukoy ang kapakinabangan ng Pasyong Mahal sa pagpapanatili ng kultura sa bayan ng Bulakan, sapagkat naniniwala ang mga mananaliksik na malaki ang parteng ginagampanan ng kulturang ito lalo na at taga-Bulakan ang isa sa nagsulat ng Pasyong Mahal ay tubong San Jose Bulakan na si Padre Mariano Pilapil. Ang napiling tagatugon sa pag-aaral na ito ay mga mambabasa ng pasyon na taga-Bulakan at iminungkahi ng SPPC at SPCY ng bisita ng kanilang barangay. Ang disenyong ginamit sa pag-aaral na ito ay deskriptiv sa pamamagitan ng kwalitatibo. Ang talatanungan na ginamit para sa pangangalap ng datos ay nakatuon sa paraan ng pagbasa ng pasyon at kapakinabangan nito. Natuklasan ng mananaliksik na ang modernong paraan ng pagbasa ng pasyon ay inilalapat ito sa tono ng makabagong kanta, sa tradisyunal na paraan naman ay mayroon silang tono na sinusunod at ang mga tono na ito ay may pangalan katulad na lamang ng Lamentasyon, Treskeda at iba pa. Napag-alaman din ng mga mananaliksik na ang pagkakaiba ng moderno at tradisyunal na pasyon ay ang tono nito. Pamilya naman ang nakitang paraan upang mapanatili ng mga kabataan at upang ipagpatuloy ang kulturang ito ay napag-alaman din ng mga mananaliksik na mahalaga ang kultura ng pabasa ng pasyon sa bayan ng Bulakan sapagkat ito ay tradisyon at bahagi ng kultura. Gayundin, sa pag-aaral na ito ay napatunayan na mas gusto pa rin ng mga taga-Bulakan na marinig ang tradisyonal na paraan ng pagbasa ng pasyon.

Mga Susing Salita: Lamentasyon, Pasyong Mahal, SPPC – Sub-Parish Pastoral Council, SPCY – Sub-Parish Commission on Youth, Treskeda

ABSTRACT

This research aims to determine the benefit of the Pasyong Mahal in preserving the culture in the town of

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Bulakan. The researchers also believes that this culture plays a significant role especially to the one of the authors of the Pasyong Mahal is a native of San Jose, Bulakan -Padre Mariano Pilapil. The selected respondents in this study were pasyon readers from Bulakan and suggested by the SPPC and SPCY of their village visitor. The design used in this study is qualitative-descriptive. The questionnaire used for data collection focuses on the way to read pasyon and its benefits. The researchers found that the modern way of reading passion applies it to the tone of modern songs. In the traditional way, they have tone to follow and these tones have names such as: Lamentasyon, Treskeda and others. The researchers also found out that there is a difference between modern and traditional reading of pasyon when it comes to the tone. Family is the only way of the youth to preserve and to continue this culture. Researchers also found out that the culture of pasyon reading in the town of Bulakan is important because it is a tradition and part of the culture. Also, in this study, it was proven that the people of Bulakan still prefer to hear the traditional way of reading pasyon.

Key Words: Lamentation; Dear Decision; SPPC – Sub-Parish Pastoral Council; SPCY – Sub-Parish Commission on Youth; Treskeda

INTRODUKSYON

Ang bawat bansa ay mayroong kaniya-kaniyang paniniwala, tradisyon at kultura na kanilang pinangangalagaan at pinagyayaman. Ang mga kulturang nagiging pagkakakilanlan ng isang bansa, bayan, o lugar na nagsasagawa at nagpapatuloy nito.

Kilala ang Pilipinas sa pagkakaroon ng hitik na kultura at tradisyon, kung mapapansin, lahat ng buwan sa kalendaryo ay may laan na pagdiriwang base sa panahon at kapistahan.

Bilang katunayan, mula sa lathalain ni Avillano (2013), kilala ang Pilipinas bilang isang Kristiyanong bansa, at ito ay pamana ng mga Kastila na ipinagpapatuloy hanggang sa kasalukuyan. Kinatatampukan ito mga tradisyon gawaing ng at pampananampalataya upang lubos maipakita ang katesismo na at kagandahan ng pagsamba sa Diyos. Ang ilan sa mga halimbawa nito ay ang mga kapistahan at panahon

katulad ng Pasko, Flores de Mayo, Kuwaresma, at gayundin ang Semana Santa.

Tuwing panahon ng kuwaresma, isang tradisyon ang malimit na pumapailanlang sa himpapawid, ito ang mga himig sa pagbasa ng Pasyon. Bawat bahay at kapilya ay nagpapabasa. Isa itong panata na isinasagawa at pamanang buhat sa matandang henerasyon tungo sa bagong henerasyon. Sinisimulan ito sa gabi at nagtatapos kinabukasan nang walang hinto. Nagpapalit - palit ang mga mambabasa nanamamanata rin at ginagamitan ang pagbasa ng iba't ibang melodiya tulad ng katutubong himig, pansimbahan, o sekular.

Sa artikulo ni Alvarez (2018), ang "Pasyon" ay isang aklat na may pamagat na "Pasyong Mahal ng ating Panginoong Jesucristo". Ito ay naglalaman ng mga ginawa ng Diyos upang iligtas ang sangkatauhan mula sa pagkakalikha ng mundo hanggang sa pag-akyat ni Kristo at Maria sa kalangitan.

Sa tuwing pag-aaralan ang Pasyong panitikan patungkol sa Mahal, awtomatikong mababanggit ang pangalan ng may-akda nito sa bayan ng Bulakan. Ayon kay Estrope (2016), ang isa sa sumulat at may akda ng Pasyon ay si Padre Mariano Pilapil na tubong Barangay San Jose, Bulakan, Bulacan. Noong taong 1814 ay isinulat niya ang "Pasyon" na tinatawag din na "Pasyong Pilapil". Nagtapos si Pilapil sa mataas na paaralan ng San Carlos at nakuha undergraduate degree ang sa Unibersidad ng Santo Tomas at siya rin ang nagsulat ng "Pasyong Mahal ng Panginoong Hesucristo" na ang ibig sabihin ay isang tulang nagsasalaysay sa kamatayan at pagkabuhay ni Hesukristo, na binabasa ng mga mananampalataya sa panahon ng kuwaresma. Si Padre Pilapil ay itinalaga sa lalawigan ng Cavite mula 1794 hanggang 1795. Nagturo siya sa Colegio Real de San Jose noong taong 1812 at tinuruan niya si Francisco "Balagtas" Baltazar, na sumulat ng "Florante at Laura".

Bukod sa mga naunang pagkakakilanlan, si Pilapil din ay naging doktor at naging bahagi sa paggawa ng batas, ang Cortes de España. Inilarawan dito si Pilapil na "Tagalista" dahil sa pagiging dalubhasa sa wikang Tagalog.

Taong 1818, namatay si Pilapil nang hindi nabibigyan ng pagkilala bilang isang natatanging anak ng bayang Bulakan. Mula naman sa isang artikulo ni Santiago (2018), inamin ng Catholic Bishops' Conference of the Philippines (CBCP) na pakaunti na nang pakaunti ang mga Katolikong lumalahok sa Pasyon o Pabasa. Dagdag pa ni P. Jerome Secillano, naging panata na ito ng mga pamilyang Katoliko sa maraming lalawigan at maging sa Metro Manila. Ayon sa kaniya, ang nakikitang dahilan kung bakit bumababa na ang bilang ng mga mambabasa ng Pasyon ay dahil sa generation gap. Saad pa niya, sa ngayon ay puro na lamang matatanda ang bumabasa ng pasyon at wala nang interes ang mga kabataan.

Sa Bulakan, maituturing na bulwagan at tanghalan ng sining ang bawat Rehiyon sa Pilipinas ng mga pamanang kultural. Ayon kay Antonio (2019), naniniwala siyang naipapasa sa susunod na henerasyon ang pagbasa ng Pasyon dahil sa mga taong nagmamahal sa tradisyon na hindi hahayaang maputol ito sa kanilang mga pamilya. Ang mga kabataan ngayon ay kailangan ng mga taong mang-engganyo sa kanila. Sa ganitong paraan, ipinapakita ang kaugnayan ng Pasyon sa sining sa Bulakan, kung saan ang mga manunulat av nakakakuha ng inspirasyon mula sa estilo at estruktura ng Pasyon. Isang halimbawa nito ay ang Balagtasan, kung saan ang matatas na paggamit ng wika at makahulugang pagtatalo pamamagitan ng tula sa ay nagdudulot inspirasyon ng at impluwensiya, na kasama ang mga estrukturang tulang karaniwan sa Pasyon.

Base sa isang respondente, ang mga barangay sa Sta Ana, Sta Ines, at Kupang ay kinikilala sa kanilang malaking bilang ng mambabasa, kabilang na rito ang maraming matatanda na patuloy na nagpapasa tradisyon. Isa sa ng mga pangunahing dahilan kung bakit silang konserbatibo tinuturing ay pamana dahil sa ng lumang kaugalian. Mula ра noong mga ninuno, ipinamana ng mga matatanda ang kanilang mga lolo/lola magulang at ang mga lumang kaugalian, lalo na sa mga gawain ng pansamba tulad ng pagbasa ng pasyon tuwing Mahal na Araw. Ikalawa, nananatili ang mga lumang kaugalian tulad ng pagbasa ng pasyon dahil mayroong mga mambabasa na kaanak din ng mga dating mambabasa, na nagnanais ipagpatuloy ang nakagisnan. Pangatlo, ang mga namumuno sa

bisita (chapel) ay nais panatilihin ang mga lumang kaugalian upang hindi malimutan ng mga mananampalataya. Hindi rin dapat kalimutan ang mga relihiyoso at mga konserbatibo na mananampalataya sa baryo na patuloy na humihiling na gawing tradisyon ang pagbabasa ng pasyon.

Ang pagpasa ng tradisyonal na Pasyon sa pamilya ay maaaring mapahinto dahil sa iba't ibang kadahilanan. Ayon sa isang artikulo mula sa Balita Online (2017), sa pamilya Ragojo sa Baras, Rizal, ang kanilang Pabasa para kay San Jose ay isang panata at tradisyon na ipinagpapatuloy mula sa kanilang mga magulang at ninuno. Ipinagpapatuloy nila ito tuwing Kuwaresma at nagluluto ng pagkain para sa mga bumabasa at mga dumadalo sa Pabasa. Sa kabilang dako, may mga pamilya sa Tanay at Morong, Rizal na sinasabi na ang kanilang Pabasa tuwing Semana Santa ay bahagi ng paggunita sa mga hirap ni Jesukristo at pasasalamat sa mga biyaya sa kanilang pamilya. Isang maybahay sa Barangay Plaza Aldea, Tanay, Rizal, ay nagsabi na nagpa-Pabasa sila bilang pasasalamat sa Poong Maykapal dahil napagtapos nila ang pito nilang anak. Ang Pasyon at Pabasa ay dalawang tradisyong Pilipino tuwing Mahal na Araw na patuloy na ipinagpapatuloy at binibigyang-buhay, bagaman maaaring may mga pagbabago sa pagpanatili nito. Ang diwa at layunin ng paggunita sa mga hirap ni Jesukristo ay nananatili sa puso ng mga nagbabasa ng Pasyon at ng mga nagpapabasa na nagtitiyak na ito ay masasabing may "sense of culture and tradition."

Ipinapakita ng Pasyon, bilang isang tradisyonal na anyo ng panitikang Pilipino na may sukat at tugma, ang mahalagang papel nito sa kulturang Pilipino. Sa modernong pag-awit, ang konsiderasyon sa sukat at tugma ay depende sa artist at

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genre. Maraming modernong kanta ang nananatiling tapat sa tradisyonal na sukat at tugma, lalo na sa mga awitin may makabuluhang na mensahe tulad pag-ibig ng at pakikibaka. Ayon sa Balita Online (2017), sa mga mang-aawit, maaaring may bahagi na kinakanta ng isang tao lamang o ng buong grupo, at nagbabago ang tono batav sa karakter na kinakatawan ng bawat isa. Sa modernong komposisyon, maaaring makita ang sukat at tugma, bagaman may mga kanta rin na sumusunod sa modernong istilo at estruktura. Sa kabuuan. ang konsiderasyon sa sukat at tugma sa modernong pag-awit ay batay sa layunin ng awitin at kung paano nais ipahayag ng mang-aawit o kompositor ang kanilang mensahe. Ang paggamit o pag-alis sa tradisyonal na sukat at tugma ay bahagi ng pag-unlad ng sining at musika.

sumusunod Ang mga na obserbasyon tungkol sa suliraning ito nagbigay dahilan ang sa mga mananaliksik upang tuklasin ang moderno at tradisyunal na paraan ng pagbasa ng Pasyon at ang pagkakaiba nito. Nais malaman ng mga mananaliksik kung paano mapapanatili ang kulturang ito at matukoy kung anong mas mainam na paraan ng pagbasa ang makapagpapanatili rito. Gayundin naman, nais ding malaman ng mga mananaliksik ang kahalagahan ng Pabasa o pag-awit ng Pasyong Mahal bilang isang kultura sa bayan ng Bulakan.

LAYUNIN NG PAG-AARAL

Ang pananaliksik na ito ay pumapaksa sa "Pasyong Mahal", mga paraan ng pagbasa at kapakinabangan nito. Ito ay may layong sagutin ang mga sumusunod na suliranin:

1. Paano isinasagawa ang tradisyunal na paraan ng pagbasa ng Pasyong Mahal?

- 2. Paano isinasagawa ang modernong paraan ng pagbasa ng Pasyong Mahal?
- 3. Ano ang nakitang pagkakaiba ng tradisyunal at modernong pagbasa ng Pasyong Mahal?
- 4. Paano mapananatili sa kabataan sa tradisyon na pagbasa ng Pasyong Mahal?
- 5. Ano ang kahalagahan ng pagbasa ng Pasyong Mahal bilang kultura?

METODOLOHIYA AT PAMAMARAAN

Ang pag-aaral na ito ay gumamit ng Descriptive Research Design. Ito ay isang paraang paglalarawan at pagbibigay kahulugan sa isang paksa. Isa itong pamamaraan na ginagamit ang Qualitative tools. Dagdag pa rito pamamaraang ito ang av paglalarawan, kinapapalooban ng pagsusuri pagtatala, at paghahambing. Ayon kay McCombes (2022)ang deskriptibong pananaliksik ay isang angkop na pamamaraan kapag ang layunin ng pananaliksik ay tukuyin ang mga katangian, dalas at uso. Ito ay kapaki-pakinabang kapag wala pang masyadong alam tungkol sa paksa o problema.

Ang pag-aaral na ito ay gumamit ng purposive sampling sa pagpili ng mga kalahok. Ang ganitong uri ng sampling ay isang di-posibilidad na sample na pinili batay sa mga katangian ng isang populasyon at sa layunin ng pag-aaral. Ang purposive ay kilala rin sampling bilang judgmental, selective, o subjective sampling. Pinili ng mga mananaliksik sampling technique na ang ito sapagkat ito ay akma para sa ginagawang pananaliksik. Gayunpaman, mahalaga ring na isaalang-alang ang ganitong pamamaraan ay maaaring magdulot ng potensyal na bias, lalo na kung hindi wasto o maayos ang pagpili ng mga kalahok.

Maaaring magkaroon ng © 2024 Paiton, M. C. ISSN 3028-2179 limitasyon sa representatib ng sample, kung kaya't mahalaga ang maingat na pagsasaalang-alang sa pagpili ng mga partisipante. Bukod dito, maaaring maging limitado rin generalizability ang ng mga natuklasan na nangangahulugang hindi ito maaaring maging ganap na representasyon ng buong populasyon ng mga mamamayan sa Bayan ng Bulakan. Upang mabawasan ang mga isinama potensval na ito, sa pagtalakay ang mga hakbang na ginawa upang tiyakin ang kredibilidad at reliabilidad ng datos.

Ang paraan ng pangangalap ng datos ng mga mananaliksik sa pag-aaral na ito ay Obtrusive Method. Sa ganitong pamamaraan ay alam ng kalahok na sila ay bahagi ng pag-aaral na isinasagawa at ito ay maaaring makaapekto sa kanilang magiging tugon. Ang paraan ng pangangalap ng datos ay maaaring pakikipanayam o pagpapasagot ng talatanungan.

Ang mga barangay sa Sta. Ana, Sta. Ines, at Kupang ay kilala sa kanilang masigasig na pagtangkilik sa pagbabasa, kaya't sila ang mga aktibong kalahok sa pagtugon sa mga katanungan, kabilang na ang mga marurunong at matatandang tagapagpatuloy ng tradisyon.

Sa prosesong isinagawa, hindi lamang ibinigay ng mga kalahok ang kanilang mga sagot, kundi ipinakita rin na ang mga ito ay naipasa sa pamantayan ng mga mataas na larangan. eksperto sa Ito av nagresulta sa mas makabuluhan at tiyak na datos na nagamit sa pag-aaral na nagbigay ng mas malalim na unawa sa kanilang nilalaman at konklusyon.

SAKLAW AT HANGGANAN

Ang pananaliksik na ito ay nakatuon sa "Kapakinabangan ng Pasyong Mahal sa pagpapanatili sa Kultura ng Bayan ng Bulakan". Saklaw nito ang mga mambabasa ng Pasyon sa bayan ng Bulakan upang malaman ang kapakinabangan at ang paraan ng pagbasa nito.

INSTRUMENTO NG PANANALIKSIK

Upang makapangalap ng mga kinakailangang datos, gumamit ang mga mananaliksik ng pakikipanayam. Bumuo ang mga mananaliksik ng pitong (7) katanungan para sa gagawing pakikipanayam. Ang mga tanong na binuo ay kinapapalooban din ng follow up questions batay sa naging tugon ng kalahok upang makuha ng mga mananaliksik ang mga impormasyon na kanilang kakailanganin.

Ang nabuong gabay na tanong ay pinagtibay ng tatlong (3) Master Teacher mula sa iba[°]t ibang paaralan. Ang pagpapatibay na ito ay kinakailangan upang makamit ng mga mananaliksik ang sagot sa ginagawang pag-aaral.

PAG-AANALISA NG DATOS

Ang ginamit na paraan ng mga mananaliksik sa pagsusuri ng mga datos na nakalap ay Thematic analysis. Ito ay isang paraan para sa pagsusuri ng qualitative data na nangangailangan ng paghahanap sa isang set ng data upang matukoy, suriin, at iulat ang paulit-ulit na mga pattern. Ito ay isang paraan para sa paglalarawan ng data, ngunit ito rin ay nagsasangkot ng interpretasyon sa mga proseso ng pagpili ng mga code at pagbuo ng mga tema (Crosley & Rautenbach, 2021).

ETIKAL NA PAGSASAALANG-ALANG

Ang mga mananaliksik ay nagbigay ng sapat na pagsasaalang-alang sa mga sumusunod: (1) kritikal na punto, (2) pagiging kompidensyal, at (3) pagiging bukas at makatarungan.

Ang lahat ng mga kalahok ay

© 2024 Paiton, M. C. ISSN 3028-2179 tinanong muna ng mga mananaliksik kung ayos lamang sa kanila ang makapanayam at kung itatago ba ang kanilang pagkakakilanlan. Sinigurado ng mga mananaliksik na naipaliwanag sa lahat ng kalahok ang tungkol sa ginagawang pananaliksik.

Ang mga kalahok ay hindi pinilit sa lahat ng tuntunin ng pakikipanayam at sila ay kinapayam base sa kanilang oras.

RESULTA AT DISKUSYON

Ang mga kalahok ay sumagot ng magkakatulad na mga katanungan at ang pakikipanayam sa mga naging kalahok ay naganap ayon sa kanilang bakanteng oras at lokasyon kung saan sila mas panatag. Dagdag pa ang ibang respondente rito. av nadatnan pa ng mga mananaliksik na aktwal na bumabasa ng pasyon. Sila ay mas nakapagbahagi ng kanilang kasagutan sa open ended mga inihanda question na ng mga mananaliksik.

mananaliksik Ang mga ay gumamit ng audio recorder upang irekord ng ang boses mga respondente at bago pa man simulan ang pakikipanayam ay ipinaliwanag muna ng mga mananaliksik ang magiging daloy nito. Dagdag pa rito, binigyan na ng kopya ng mga katanungan ang mga kalahok upang sila ay magkaroon na ng ideya sa kanilang maaaring maging kasagutan simulan ang panayam. bago Pagkaraan ng paglilinaw sa mga katanungan av pormal nang sinimulan ang pakikipanayam.

Bilang pagsunod sa mga etika na dapat isaalang-alang sa pag-aaral na ito minabuting itago av ang pagkakakilanlan ng mga naging kalahok, bumuo ng kowd ang mga mananaliksik bawat kalahok upang manatiling kompedensval ang kanilang mga ibinahaging sagot. Ito rin ay batay sa napagkasunduan ng mga kalahok at mga mananaliksik bago simulan ang panayam. Ang mga

kowd na nabuo ay hango sa paksa ng ginagawang pananaliksik "Mambabasa ng Pasyon" o MP para sa lahat ng kalahok at karugtong nito ay gumamit ng bilang 01-09 sa code batay sa kabuuang bilang ng mga nakapanayam.

Matapos ang pakikipanayam, ang mga naging kasagutan ng mga naging kalahok sa pananaliksik na ito ay iniayos sa paraang tematiko.

Tradisyunal na Paraan ng Pagbasa ng Pasyong Mahal

Ang bahaging ito ay tatalakay tungkol sa naging tugon ng mga kalahok sa unang tanong ng pananaliksik na ito na "Paano ang tradisyunal na paraan ng pagbasa ng Mahal?" Pasyong Ang mga manananaliksik ay nakabuo ng isang (1) tema sa paraan ng pagbasa ng tradisyunal na pasyon at ang temang nabuo ay ang May Pangalan ang mga Tono.

May pangalan ang mga Tono. Lumabas na tema batay sa naging kasagutan ng mga kalahok na ang paraan ng tradisyunal na pagbasa ng pasyon ay may mga tono sila na sinusunod. Mula sa pahayag ni MP04 Line No. 83-86:

MP04 Line No. 83-86: "Hmm, yung mga treskeda yung mga lamentasyon yung mga panunuluyan ahh ... yung mga tinuturo sa akin ng amang ko nung maliit pa ako yung iba hindi ko na alam ang pangalan eh basta pag narinig ko nasusundan ko."

Sinuportahan naman ito ng naging sagot ni MP08 Line No. 203-207 nagbigay rin siya ng mga katawagan sa tono ng tradisyunal na pagbasa ng pasyon.

MP08 Line No. 201-205: "Hindi ko alam ang tono kase wala namang pangalan ng tono kundi lamentasyon lang yun lang ang may pangalan at tagulaylay ba yon tagulaylay yung parang nakakakilabot yung mahabang-mahaba tono." Batay sa naging kasagutan ng mga kalahok ay nagbigay sila ng mga pangalan ng tono ng tradisyunal na paraan ng pagbasa ng pasyon, nabanggit nila ang tatlong halimbawa ng nito, Ito ay ang Treskeda, Lamentasyon at Tagulaylay.

Kaugnay nito, ayon kay Bautista (2017), batay sa kaniyang isinulat ay mayroong nagsasabi na ang pagbasa ng Pasyon ay hango mula sa Tagulaylay. Isa itong matandang awiting Pilipino kung saan binibigyang kahulugan ito bilang isang mahabang pagsusunod-sunod ng halos iisang himig panaghoy o pagdadalamhati na inaawit ng isahan. Ito ay karaniwang bahagi ng tradisyonal na pagsasalaysay ng "Pasyon," na isinasagawa tuwing Semana Santa o Mahal na Araw bilang pag-alala sa mga pangyayari sa buhay ni Hesus. Sa pamamagitan ng ipinapakita tagulaylay, ang mga sakripisyo at pagmamalasakit ni Hesus sa kanyang mga tagasunod.

Dagdag pa rito, mula sa "Ang Uhay Parokya ng San Isidro -Labrador, Bambang" (2017), sinasabi ang ang lamentasyon na ay tradisyunal na paraan na pagbasa ng pasyon at iilan na lamang ang nakakaalam kung paano ito awitin. Isinaad din dito ang paghiling na sana ay maipasa ito sa mga susunod na henerasyon. Ito ay bahagi ng pasvon na nagbibigay-diin sa mga hirap at pagdurusa na dinanas ni Hesus bago ang kanyang kamatayan, o ang mga hirap at sakripisyo ni Maria bilang Ina ng Hesus. Ito ay mahalagang bahagi ng tradisyonal na mga panalangin at pag-aalay sa Mahal na Araw o Semana Santa, kung saan tinitingala ang mga hirap at sakripisyo ni Hesus bilang bahagi ng Kristiyanong pananampalataya.

Ayon sa artikulo mula sa Flickr (2015), dahil sa mahabang tradisyon, may iba't ibang himig na ginagamit sa pag-awit ng Pasyon. May masiglang himig na karaniwang ginagamit ng

mga kabataan, tinatawag na "tres kaida" o "treskeda." Mayroon ding malumbay at mabagal na mga himig. May himig na maririnig lamang sa Marinduque at may himig na mas popular sa Bulacan at Nueva Ecija. Hindi rin maiiwasang may mga kabataan ngayon na nagdadala ng mga himig ng awiting popular at makabago sa pabasa.

Sa aspekto ng propayl, hindi na ito itinuturing na pangunahing aspeto ang pagsunod sa mga alituntunin ng data privacy, na gaya ng dating praktika. Sa kasalukuyang panahon tradisyon, hindi at na ito kinakailangan 0 tinitingnan ng marami bilang isang mahalagang bagay. Sa halip, maaaring batayan na lamang ang edad sa pagtukoy kung pinakamatanda sino ang at pinakabata sa isang komunidad.

Modernong Paraan ng Pagbasa ng Pasyong Mahal

Ang bahaging ito ay naglalaman ng mga naging tugon mula sa pangalawang katanungan ng pag-aaral ito "Paano na ang modernong paraan ng pagbasa ng batay pasyon?" sa mga naging kasagutan ng mga kalahok ay nakabuo ng isang (1) tema ang mga mananaliksik na paraan ng pagbasa ng modernong pasyon. Ang temang ito ay Paglalapat.

Paglalapat. Mula sa mga naging kasagutan ng mga kalahok ay lumabas na ang modernong paraan ng pagbasa ng Pasyon ay inilalapat ito sa tono ng mga awitin ngayon. Mula kay MP01 Line No. 10-12:

MP01 Line No. 10-12: "Yung makabago ina-adopt na lang yung tono ng mga awitin sa ngayon na kung saan magra-rhyme dun sa bilang nung bawat saknong."

Ang kasagutan namang ito ay binigyang diin ng naging pahayag ni MP09 Line No. 250-257 na ang makabagong paraan ng pagbasa ng pasyon ay inilalapat ang mga tono ng awitin sa ngayon sa pasyon.

MP09 Line No. 249-256: "Siguro mapapansin din natin kapag ang bata ang bumasaklawbasa ng pasyon laging maririnig natin ang tono ng ang mga ibon at mayroon ding mga tono dito na kung saan ay nilalagyan ng buhay sa pamamagitan ng mga tono ng mga opm song sa kasalukuyan katulad na lamang ng baleleng katulad non, ang baleleng kase pag pinakinggan mo para siya talagang tono ng pasyon na kung saan may nilalapat don sa mga liriko ng pasyong mahal."

Paglalapat sa mga awitin ngayon nabuong tema ang para sa pangalawang katanungan ng pananaliksik at ito ay batay sa naging kasagutan ng mga kalahok. Ayon sa isang artikulo sa Pilipino Mirror (2023), may grupo ng mga kabataan na binago ang tono ng pasyon. Ang tono o himig ay hango sa mga nakaiindak na awitin tulad na lamang ng Sta. Clara, Ate ku pung Singsing, at Sa Silong ni Kaka.

Kaugnay rin nito, mula sa isang sulatin tungkol sa Pasyon ng NCAA (Pabasa Ang Pabása Ay Isang Ritwal Ng Pag-Awit Ng Pasyón—An..., 2015) ay sinabing may iba't ibang himig ang ginagamit sa pagbasa ng Pasyon. Mayroong masigla at mayroon ding malumbay. Sinasabi rin na hindi maiiwasan na may mga kabataang gumagamit ng himig na awiting popular at makabagong paraan ng pagbasa. Samakatuwid, gusto ng mga kabataan o ng mga bagong bumabasa ng Pasyon ang masayang tono sa Pasyon.

Pagkakaiba ng tradisyonal at modernong paraan ng pagbasa ng pasyon

Ang bahaging ito ay naglalaman ng mga naging kasagutan ng mga kalahok na sasagot sa pangatlong tanong ng pananaliksik na "Ano ang

nakitang pagkakaiba ng tradisyunal at modernong pagbasa ng pasyong mahal?" mula sa naging tugon ng mga kalahok nakabuo ang mga mananliksik ng isang (1) tema at ito ay ang tono nito.

Tono. Lumabas na tema ang tono ang nakitang pagkakaiba ng tradisyonal at modernong pagbasa ng Pasyong Mahal at batay sa naging sagot ni MP07 Line No. 170-174;

MP07 Line No. 170-174: "Tradisyunal syempre. Ah yun lang binabasa lang namin na naaa haaa...ahhh (kumakanta) ayan mga ganun ganon lang kase mga kabataan ngayon ang tono parang kinukuha doon sa kanta sa radio ayun ang ginagamit nilang tono kaya hinde maganda."

Sinuportahan naman ito ng naging pahayag ni MP08 Line No. 205-209 na tono ang pinagkaiba nito. Ang modernong paraan ay kinukuha lamang sa mga kantang naririnig sa radyo.

MP08 Line No. 205-209: "Kasi tradisyunal mas mararamdaman mo yung kinakanta yung mismong pasyon. Eh kaysa yung sa ngayon basta nalang pumupulot ng tono sa mga kantang naririnig sa radyo parang hindi pasyon diba ano? Yun, yun lang."

Mula nakalap na sa mga impormasyon mula sa mga kalahok ay lumabas na ang pagkakaiba ng tradisyunal at modernong paraan ng pagbasa ng Pasyon ay ang tono nito. Sinusuportahan naman ito ng isang artikulong (Passionate for Pasyon 2, 2015) nakasaad dito na Habang Papalapit nang papalapit sa bisita ng Santisima Trinidad ay maririnig na ang pagbasa ng Pasyon mula sa madaling natukoy ni daan, G. Buluran na naririnig ang ay tradisyunal na tono, sinusuportahan nito ang lumabas na tema na ang pagkakaiba tradisyonal ng at moderno ay ang tono niito at ito ay

madaling matutukoy.

Paraan upang mapanatili ang mga kabataan sa Pagbasa ng Pasyong Mahal

bahaging ito naman Ang ay tumatalakay sa mga naging kasagutan ng mga kalahok sa katanungan pang-apat na ng pag-aaral na ito, "Paano mapapanatili ang mga kabataan sa pagbasa ng Pasyong Mahal?". Mula sa mga naging tugon ng mga kalahok sa tanong ay nakabuo ang mga mananaliksik ng isang (1) tema lamang at ang temang ito ay pamilya.

Pamilya. Lumabas na tema upang mapanatili ang mga kabataan sa tradisyon ng pagbasa ng pasyon ay pamilya at batay sa naging kasagutan ni MP01 Line No. 27 - 32.

MP01 Line No. 27-32: "Siguro, halimbawa sa pamilya diba kami paano ba kami natuto, diba tinuruan kami. So, isa siguro yun paraan, halimbawa ako yung mga anak ko, isama ko sila, kapag basahan para At least, maalam nila kung paano yung tono, ganun. Tapos, kung halimbawa sila naman nakaimpluwensiya sila sa kanilang mga kaibigan, hanggang sa lumaganap siya."

Sinuportahan naman ito ng naging pahayag ni MP02 Line No. 58-61 upang mapanatili ang kabataan sa tradisyon na pagbasa ng pasyong mahal isang factor ang pamilya upang maipasa ito.

MP02 Line No. 58-61: "Siguro sa.. isa sa factor n'un 'yung sa family nila.'di ba? Parang napapasa. Oo, tradisyon sa pamilya. 'yung iba naman siguro sa kaibigan 'din gan'un. O kaya, kung nasa simbahan gan'on. Parang nahawa gan'on."

Mula sa mga nakalap na impormasyon sa mga respodente ay lumalabas na malaking impluwensya ang pamilya upang mapanatili ang mga kabataan sa pagbasa ng Pasyon. Sa kanila ring naging kasagutan ay

nakaapekto ito kung bakit kakaunti na lamang ang mga kabataan na bumabasa ng Pasyon.

Ayon kay San Luis (2019) mula sa kanyang nakapanayam na si Nanay Gloriana ay mahiyain ang mga kabataan at gusto lamang ng mga ito kasabay ang kanilang na mga kaedad. Dagdag pa rito, mula pa rin sa mga nakapanayam ni San luis na mga kabataan mula sa UPLB ay kinakailangan lamang ng isang magsisimula at manghihikayat sa kanila na kapwa kabataan upang gawin ang pagbasa. Isinaad rin dito na isa sa dahilan kung bakit hindi tumataas ang bilang ng kabataan na nagsasagawa nito ay ang kakulangan sa nagtuturo tungkol sa pasyon.

Kahalagahan ng Pasyong Mahal bilang isang Kultura

Ang bahaging ito ay naglalaman ng mga tugon mula sa ikalimang katanungan suliraning sa nais masagot ng pananaliksik na ito "Ano ang kahalagahan ng Pasyong Mahal bilang kultura?" mula sa mga naging kasagutan ng mga kalahok dalawa (2) ang temang nabuo para sa kahalagahan ng Pasyong Mahal bilang kultura at ang mga temang ito ay tradisyon at bahagi ng kultura at Pamana.

Tradisyon at Bahagi ng Kultura. Ang lumabas na unang tema ay tradisyon at bahagi ito ng kultura kung bakit ito mahalaga ay batay sa naging pahayag ni MP01 Line No. 33-39;

MP01 Line No. 33-39: "Mahalaga kasi, aside na bahagi siya ng kultura kumbaga tulad ng sinabi ko kanina, ng pagbabasa, na ivun paraan mo kasalanan, pagsisisi nang mamanata ka sa pamamagitan ng pagbabasa ng pasyon kasi 'di naman talaga madaling bumabasa ng pasyon diba imagine mo ilang saknong yun sa bawat isang pahina tapos 213 pages na kung saan 'pag wala kang nakasalit talagang ikaw lang ang ... Oo, yung mamaos kana diba."

Ito naman ay sinupurtahan ng naging kasagutan ni MP09 Line No. 300-306 na ang pagbasa ng pasyon ay mahalaga sapagkat kabahagi na ito ng kultura.

MP09 Line No. 300-306: "Ahh para sa akin ito ay isa sa mahahalaga sapagkat ito ay kabahagi na ng kultura ang pasyong mahal ay isang likhang sining na kung saan ito ay sinulat ng mga uhm tao ah ng isang tao na kung saan ito ay ipinamahagi naging tatak na ng kultura lalo na dito sa bulakan sapagkat isa isa sa mga sumulat ng pasyong mahal ay lehitimong taga bulakan, bulacan na si Padre Mariano Pilapil."

Batay sa naging kasagutan ng kalahok para sa ikalimang mga katanungan ng pananaliksik av nanguna ang temang tradisyon at bahagi ng kultura. Ayon kay Jusay (2019), hindi nawawala ang mga tradisyon tuwing Mahal na Araw na sinasabing bahagi na ng ating buhay, isa na nga rito ang Pabasa na hindi na mawawala tuwing Mahal na Araw. ginagawa Palagi itong sa mga probinsya at sinasabing ito ang pinakapopular na tradisyong Pilipino.

Mula naman kay Bautista (2017), bagamat marami man ang paraan ng paggunita ng Mahal na Araw, ay mayroon at mayroong kultura pa rin ang mangingibabaw. Isa sa nangingibabaw ay ang Pabasa ng Pasyon sapagkat sa tuwing maririnig ito ay mas nadarama ng bawat tao ang diwa ng pagdiriwang.

Suhestiyon/Mungkahi ng mga Mambabasa ng Pasyon na mas Mainam na Gamitin na Paraan ng Pagbasa Pasyong Mahal

Mula sa naging kasagutan ng mga kalahok para sa Ikaanim at huling katanungan ng pananaliksik na "Ano ang mamumungkahing paraan ng pagbasa ng pasyong mahal upang

mapanatili at mapakita ang kahalagahan nito? nakabuo ang mga mananaliksik ng dalawang (2) tema ang mga temang ito ay pareho at tradisyunal.

Pareho. Lumabas ang temang pareho o gamitin ang tradisyunal at modernog paraan ng pagbasa ng pasyon kung saan mas komportable sapagkat hindi lahat ay alam ang tradisyunal na paraan ng pagbasa ng pasyon at mula sa pahayag ni MPO2 Line No. 63-68.

MP02 Line No. 63-68: "Sa tingin ko kung saan sila komportable gan'un. Kasi may mga bata na hindi nila alam 'yung mga tradisyunal na tono ng pasyon 'di ba? 'yung mga nadatnan na nilang mga melody, yung pang ano na.. yung nakikita lang sa internet 'di ba gan'un. Oo, 'yung mga available na."

Sinuportahan naman ito ng naging kasagutan ni MP09 Line No. 305-318 na nawawalan ng interes ang karamihan kung mananatili sa tradisyunal kung kaya't kailangan natin sumabay sa panahon gamit ang moderno at huwag kalimutan ang tradisyunal.

MP09 Line No. 305-318: "Para sa akin uhm mas mainam na. wag nating kalimutan 'yung tradisyunal at 'yung moderno maaari naman natin itong pagsamahin sapagkat kapag kinalimutan natin ang dati o ang tradisyunal hindi tayo marunong lumingon kung saan tayo nagsimula ngunit eto rin naman o ang tradisyunal ay ang ina ng lahat ng tono na nakukuha natin ngayon sa kasalukuyan samantala naman ang modernong pag awit ng kanta kailangan naman nating sumabay sa modernisasyon na ang ating lipunan o ang ating bayan sapagkat marami na sa atin ang nawawalan na ng interes kapag sinabi or malamya ang pananampalataya kumbaga dapat nating pasiglahin sa pamamagitan ng modernong pagkanta at akma sa liriko ng pag awit ng pasyong mahal."

Tradisyunal. Lumabas na tradisyunal na paraan ng pagbasa ng Pasyon ang mungkahi ng mga mambabasa ng Pasyon upang ito ay mapanatili at mula sa pahayag ni MP01 Line No. 39-43;

MP01 Line No. 39-43: "Para sa akin, yung tradisyunal kasi pag nawala yung tradisyunal diba mawawala na rin yung kulturang kinagisnan diba, paano mo pa siya maita-transfer from generation to generation kung ang mangingibabaw na yun yung makabagong paraan."

Sinuportahan naman ito ng naging kasagutan ni MP04 Line no. 105-109 na tradisyunal sapagkat ito ay ang mas magandang gamitin.

MP04 Line No. 105-109: "Para sakin ay tradisyunal. Oo, meron naman din moderno na minsan maganda rin naman yung tono nila minsan pag may kumakantang mga kabataan sinusundan nalang namin kase okay naman yung tono nila, pero mas maganda pa rin syempre ang tradisyunal."

Batay sa mga naging kasagutan ng siyam (9) na respondente, tatlo (3) rito ang nagsasabing pareho at sinasang-ayunan nila ang paggamit ng moderno at tradisyunal na paraan ng pagbasa ng pasyon. Samantalang anim (6) naman ang nagsabing mas mainam pa rin na tradisyunal na pagbasa ng pasyon ang kanilang mamumungkahi.

Kaugnay nito ayon sa isang artikulo mula sa Balita Online (2017), nakasaad na binigyang pansin ni Secillano Father Jerome isang executive secretary ng Catholic Bishop Conference of the Philippines Public Affairs Committee, na labis na ang ang paggamit ng mga kabataan ng mga makabagong himig at awitin sa Pagbasa ng Pasyon, saad pa niya "Let the young learn the old way, the traditional way so that they'll also know how the elderly or their parents do it. There is also value in trying to

understand the nature of the old people." Sa makatuwid kahit magpatuloy ang paggamit ng modernong pagbasa ng pasyon ay mahalaga pa rin na matutuhan ng mga bumabasa ng pasyon ang tradisyunal na paraan nito (Aquino, 2017).

Dagdag pa rito ayon pa rin kay Aquino, sa kaniyang patuloy na pakikipanayam kay Fr. Secillano, hindi niya sinasabi na masama ang paggamit ng modernong paraan ng pagbasa ng pasyon lalo na kung makakahikayat ito ng mga bagong henerasyon na maging madasalin, "If it will actually attract the young people to participate in the pabasa much better".

KONKLUSYON

Mula sa mga datos na nakalap ng mga mananaliksik sa mga mambabasa ng pasyon ay nasagot nito ang mga inilahad na suliranin sa unang kabanata tungkol sa "Kapakinabangan ng Pasyong Mahal sa Pagpapanatili sa Kultura sa Bayan ng Bulakan."

Natuklasan ng mga mananaliksik ang mga sumusunod:

- 1. Para sa unang tanong ng pananaliksik lumitaw ayon sa mga naging panayam, mayroong mga taguri 0 katawagan ang mga tradisyunal na tono o himig sa pagbasa ng Pasyon. Halimbawa na lamang nito ay ang Treskeda, Lamentasyon, tagulaylay, atbp.
- 2. Natuklasan mga ng mananaliksik sa ikalawang katanungan ng pag-aaral na sa kasalukuyan ayon sa mga naging panayam sa mga respondente kadalasan av nilalapatan ng mga kabataan ng makabagong mga tono o awitin ang pagbasa ng Pasyon.

- 3. Tono naman ang lumitaw na pagkakaiba ng tradisyunal at modernong pagbasa ng pasyon batay sa mga kasagutan na ibinigay ng mga respondente. Dahil ayon sa kanila, lubhang malaki ang pagkakaiba ng tono ng tradisyunal at moderno. Ang tradisyunal ay mabagal at may lumbay ang pag-awit na kung tawagin ay tagulaylay samantalang moderno ang naman ay mga himig o tono na masaya at napapanahon.
- 4. Natuklasan sa pang-apat na katanungan ng pananaliksik na malaki ang ginagampanan ng pamilya sa pagpapanatili ng kultura ng pagbasa ng pasyon. Dahil kalimitang ang pamilya ang unang nagtuturo sa mga kabataan ng mga paraan ng pagbasa ng Pasyon sa kanilang lugar. Bagama't ito ang pangunahing ideva sa tema, lumalabas rin na hindi na nabibigyang halaga sa ibang pamilya ang pagpapanatili ng kultura tulad na lamang ng pagbasa ng Pasyon.
- 5. Natuklasan ikalimang sa katanungan ng pananaliksik mahalaga ang Pasyon na sapagkat ito ay bahagi ng kultura. Ang Pasyon ay malaki kapakinabangan ang sa pagpapanatili sa kultura sa bayan ng Bulakan. Ayon sa mga naging panayam, mas nadarama ang nais iparating panahon kung ng umaalingawngaw sa himpapawid ang mga tono sa pagbasa ng Pasyong Mahal.
- 6. Mula sa ikaanim na katanungan ng pananaliksik ay nalaman ng mga mananaliksik na mas gusto pa rin ng mga taga-Bulakan ang tradisyunal na paraan ng pagbasa ng pasyon ang gamitin

upang mapanatili at maipakita ang kahalagahan nito, Ayon sa mga naging kalahok mas nadarama ang kultura ng pagbasa ng Pasyon kung ito ay gagamitan ng mga tradisyunal na himig at nabibigyang diin ang kulay o damdamin na nais iparating ng panahon.

- 7. Ang dedikasyon ng mga taga-Bulakan sa pagpapanatili ng tradisyonal na paraan ng Pasvon pagbasa ng av nagpapakita ng kanilang malalim na pagpapahalaga sa mga sinaunang kaugalian at kultura. Ito ay isang patunay ng kanilang pagmamahal sa kanilang pinagmulan at sa halaga ng mga tradisyong nagbibigay-buhay sa kanilang komunidad.
- 8. Natuklasan din na habang ang pamilya ay may malaking bahagi sa pagpapanatili ng tradisyon ng Pasyon, ang pagkakaroon mga ng pamilyang hindi na nagbibigay ng halaga sa kulturang ito ay maaring maging isang alalahanin. Maaaring isipin ng mga institusyon sa komunidad hakbang upang ang mga mahikayat iba ang pang pamilya na masiguro ang pagtuturo ng mga tradisyonal na kaalaman sa kanilang mga anak.

REKOMENDASYON

Batay sa kinalabasan ng isinagawang pananaliksik na ito iminumungkahi ang mga sumusunod;

1. Bigyang pansin at alamin ng mga kabataan ang pananaliksik sa kultura ng Pasyon gayon din ang mga tradisyunal na himig nito. Dahil bukod sa pagiging

© 2024 Paiton, M. C. ISSN 3028-2179 natatanging kultura nito, ang Pasyon ay isang halimbawa ng panitikan at isang uri ng literatura na tangi sa ating bayan.

- 2. Gamitin ang tradisyunal na himig o tono upang mapanatili ang kultura ng Pasyon.
- 3. Sikaping mapanatili ang kultura at paraan ng Pagbasa ng pasyon sa bayan ng Bulakan. Mainam din kung mairerekord ang mga halimbawang gawi sa pagbasa at mga himig na ginagamit maituro upang sa mga nakababatang henerasyon. Maaring maglunsad ang mga kabilang sa mga lupon ng Simbahan at komisyon ng Cultural Heritage ng bayan ng mga panayam, Forum, at workshop patungkol sa tradisyong ito upang mas mapag-alab pa at matutunan ng mga mamamayan ang esensya at kahalagahan nito. Gayon din naman ay upang mapreserba ang mga umiiral na paraan ng Pagbasa ng pasyon sa lugar.
- 4. Gamitin ang modernong media tulad ng radio, telebisyon, at social media upang ipaalam kahalagahan ang ng tradisyonal na Pasyon. Maaaring ito ay sa pamamagitan ng pagpapalabas ng mga programa o paglikha ng mga online content.
- 5. Magbigay ng suporta sa lokal na mga grupo o indibidwal na nagtatanghal ng tradisyonal na Pasyon. Maaari itong maging sa pamamagitan ng pagbibigay ng grant o pondo para sa kanilang mga produksyon.
- 6. Bigyang pansin ang mga ganitong uri ng Literatura

sapagka't tulad ng naging danas ng mga mananaliksik, lubhang kakaunti ang mga taong nagbigay pansin sa pag-aaral ito. na Kung magkakaroon lamang ng ibayo pang mga pananaliksik sa mga ng literatura, ganitong uri magkakaroon lubos ng na kaalaman ang mga taong magbabalak sumilip sa bahaging ito ng tradisyon bilang mahalagang kultura sa bayan ng Bulakan.

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Mungkahing Planong Pagsasanay sa Pagpapalakas ng Mother-Tongue Based Multilingual Education para sa Piling Kaguruan sa Elementarya

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ABSTRAK

Ang pangunahing layunin ng pananaliksik na ito ay ang makabuo ng isang mungkahing planong pagsasanay na nakatuon pagpapaunlad pagpapalakas sa 0 ng Mother-Tongue Based Multilingual Education (MTB-MLE) para sa piling kaguruan sa Elementarya. Napili ng mga mananaliksik ang paggamit ng dokumentaryo at kwalitatibong pamamaraan upang maisakatuparan ang pag-aaral at matukoy ang mga suliraning kinakaharap ng kaguruan na nagtuturo ng/sa MTB-MLE sa paaralang elementarya ng Kaunlaran. Ang talatanungang nabuo ng mga mananaliksik ay dumaan sa balidasyon ng dalawang dalubguro. Naging pangunahing partisipant ng pag-aaral na ito ay ang 9 na kaguruang nagtuturo sa mga mag-aaral baitang 1-3 sa paaralang elementarya ng Kaunlaran. Mula sa mga suliraning natukoy sa panayam na isinagawa tulad ng kakulangan sa pagsasanay pangguro, mabilis na transisyon sa baitang ng mga mag-aaral, at iba pang suliranin ay bumuo ang mga mananaliksik ng isang mungkahing pagsasanay na nahahati sa tatlong bahagi ang pokus: Ang Content-Based, Strategy-Based, at Classroom Demonstration. Ang mungkahing pagsasanay na nabuo ng mga mananaliksik ay muling dumaan sa balidasyon ng eksperto upang masusing mataya ito bago tuluyang isapraktika. Bilang rekomendasyon sa naging pananaliksik, iminimungkahing magsagawa ng iba pang pagsasanay pangguro ang mga mananaliksik na ang tuon naman ay sa MELCS, at mas malawak na pagpapatupad pa nito sa ibang mga paaralan. Kaugnay rin nito ay ang mungkahing muling pagsusuri sa mga memorandum at batas na ibinaba ng kagawaran upang mas epektibong mailagtag ang mga mungkahing pagsasanay pangguro.

Mga Susing Salita: classroom demonstration, content-based, MTB-MLE, planong pagsasanay, strategy-based

ABSTRACT

This study sought to develop a proposed training plan focused on improvement or strengthening of the Mother-Tongue Based Multilingual Education (MTB-MLE) for selected elementary educators. To conduct the study and determine the difficulties faced by instructors at Kaunlaran Elementary School who are teaching in or utilizing MTB-MLE, qualitative researchers choose to employ the and documentary methodologies. The questionnaire developed by the researchers underwent validation by two education experts. Nine teachers at Kaunlaran Elementary School who work with students in grades 1-3 were the main participants in this study. The researchers created a proposed training that is broken down into three sections: Content-Based, Strategy-Based, and Classroom Demonstration. These parts are based on the concerns that were found in the conducted interviews, including quick grade changes among students, a lack of teacher training, and other challenges. The proposed training developed by the researchers underwent validation by experts for thorough assessment before final implementation. As a recommendation from the research, it is suggested that the researchers conduct additional teacher training focusing on MELCS (Most Essential Learning Competencies), and further implementation in other schools. In connection with this, there is also a recommendation for a reevaluation of the memoranda and laws issued by the department to more effectively implement the proposed teacher training.

Keywords: MTB-MLE, *training plan*, *content-based*, *strategy-based*, *classroom demonstration*

INTRODUCTION

Ang wika ang nagsisilbing daluyan ng komunikasyon at impormasyon sa ating pangaraw-araw na pamumuhay. Higit na mahalaga ang gampanin nito sa pagpapadaloy ng kaalaman at sa proseso ng pagtuturo at pagkatuto sa loob ng silid-aralan. Kava naman, suliranin kung maituturing na ang mga mag-aaral sa primarya ay may kakulangan o walang malalim na karunungan sa wikang midyum na ginagamit sa pagtuturo sa silid-aralan. Sa konteksto ng edukasyon sa Pilipinas, Ingles ang nagsisilbing midyum sa pagtuturo ng mga aralin partikular sa asignaturang Matematika, mga Ingles, at iba pa mula Agham, elementarya hanggang sekondarya.

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Sa pag-aaral ng UNESCO (2003) sinasabing ang unang wika o Mother Tongue ng isang mag-aaral ay ang pinakaginagamit kaniyang at pinakaalam na wika. Maituturing itong isang batayan para sa pakikinabang kabisaan sa ng paggamit ng MTB-MLE sa primarya para sa pagpapadali ng pagtuturo mula sa wikang kinasanayan ng mga mag-aaral. Hindi maitatangging mahalagang salik sa pagtuturo ang wikang ginagamit guro ng sa pagtuturo dahilan para maging esensival ang paggamit ng unang wika sa edukasyon, at higit pa itong magiging epektibo kung masisimulan sa mababang baitang ang paggamit

nito kung saan ang mga mag-aaral ay nagsisimula pa lang umunawa ng mga pangunahing konsepto o basic concepts na saklaw ng iba't ibang asignatura. Sa kabila ng mga positibong epekto ng MTB-MLE sa edukasyon, hindi maikakailang iba't ibang suliranin ang umiiral dito partikular sa kaguruang nagtuturo nito sa mga paaralan.

Batay sa mga suliraning kinaharap ng Kagawaran ng Edukasyon sa mga nakalipas na panahon, isang malaking hamon ang pagtuturo ng mga aralin kaugnay sa abilidad ng mga mag-aaral na umunawa ng wikang ginagamit ng paaralan. Bilang tugon sa suliraning ito, itinaguyod ang paggamit ng Mother Tongue-Based Multilingual Education o MTB-MLE noong taong 2009 sa bisa ng Deped Order no.74 series of 2009 na kung saan ay binigyang espasyo ang paggamit ng unang wika ng mga mag-aaral sa pagtuturo upang mas paigtingin ang pagkatuto ng mga mag-aaral at upang maisulong ang Education for All (EFA).

Binigyang-diin sa Section 2 ng DO 74, s. 2009 ang programang MTB-MLE na tumutukoy sa epektibong paggamit ng dalawa at higit pang wika sa pagtuturo at literasiya, at nararapat na isulong bilang pundamental na polisiya sa pormal na edukasyon man, o maging sa Alternative Learning System (ALS).

Sinuportahan naman ito ng Deped Order no.16 Series of 2012 na naglatag ng Guidelines on the Implementation Mother of Tongue-Based-Multilingual Education sa ilalim ng RA 10533 Section 4 -Basic Education Act of 2013 o kilala rin bilang K-12 educational system sa bansa. Ang pagpili ng DepEd sa mother tongue o ang unang wika na kanilang isasama sa pagpapatupad ng MTB-MLE ay nakabatay sa laki at/o dami ng bilang ng gumagamit nito gayundin sa kung anong mga kagamitang panturo ang umiiral na maaring gamitin ng mga mag-aaral sa pag-aaral gamit ang kanilang unang wika (Williams et al., 2014). Ang paggamit din ng unang wika ng guro at mga mag-aaral sa diskurso ay isang mahalagang pundasyon sa pagbabahagi ng kanilang opinyon at maging sa pagpapaunlad ng literasiya ng mga mag-aaral (Williams et al., 2014). Ito ay pangunahing kahingian sa proseso ng pagkatuto, ang mga kagamitang panturo na hango sa midyum ng unang wika ng mag-aaral sa maagang yugto ay nakadaragdag sa hilig ng mag-aaral na matuto kumpara sa paggamit ng ikalawang wika o foreign language (Anudin, 2018).

Sa kabilang banda, isang dekada lumipas na ang mula nang naisabatas ang MTB-MLE ngunit kali-kaliwa pa rin ang mga nakikitang suliranin dito. Mahalagang salik ng malaking pagbabagong kinaharap ng kurikulum noon ang pagsasanay sa mga guro at pagbibigay sa kanila ng mga sapat na kagamitang pampagtuturo. Mula sa pananaliksik ni Anudin (2018), sinasabing hamon sa pagtuturo ng MTB-MLE ang hindi pagsasaalang-alang sa alokasyon ng badyet, dami ng guro, at mga materyales na mapagkukunan para sa pagtuturo. Gayundin, nagiging teknikal ang mga ortograpiyang ginagamit, at hindi ito madaling maunawaan mag-aaral ng mga (William, et al., 2014). Malaking suliranin din ang kakulangan sa paghahanda para sa mga guro upang epektibong makapagturo sa mga mag-aaral sa paggamit ng kanilang unang wika, sapagkat hamon din sa kanila bilang guro ang pagkakaroon ng mga mag-aaral na iba't ibang wika ang ginagamit (Lartec et al., 2014).

Isa ring salik ang pagiging limitado ng mga naging paghahanda, mula sa kagamitang pampagtuturo hanggang sa kagamitang

pampagkatuto sa pagpapatupad ng MTB-MLE. Maituturing na mahalagang salik sa pagkatuto ng mag-aaral ang kagamitang mga pampagtuturo sapagkat kinakailangan maging handa ang guro sa paggamit ng mother tongue sa klase at mga aralin, maging sa multilingual na mag-aaral mga (Anudin, 2018). Malaking suliranin din ang kakulangan sa paghahanda para sa mga guro upang epektibong makapagturo sa mga mag-aaral sa paggamit ng kanilang unang wika, sapagkat hamon din sa kanila bilang guro ang pagkakaroon ng mga mag-aaral na iba't ibang wika ang ginagamit (Lartec al., 2014). et Lumalabas sa pag-aaral na kinakaharap guro ng mga ang suliraning tulad ng hindi akmang teachers' guide kagamitang sa pampagkatuto ng mga mag-aaral, pagiging magkaiba ng wikang ginamit kagamitang pampagkatuto sa at wikang ginagamit sa loob ng paaralan, mga gurong nahihirapang tukuyin ang learning outcomes, at iba pa (Williams et al., 2014).

Sa estado naman ng MTB-MLE sa Pilipinas, nakababahala ayon kay Areola. Leila Director IV ng Curriculum and Instruction sa DepEd Bureau of Learning Delivery (2022), na mula sa 305,099 na bilang, 78,872 na personnel lamang ang nabigyan ng pagsasanay para sa paggamit ng mother tongue bilang wikang panturo kabilang dito ang mga supervisor, school heads, at mga guro mula sa Kindergarten hanggang baitang 3. Binigyang diin din ni Senator Gatchalian (2022) na hindi magandang senyales ang 23 bahagdan na datos ng mga guro na sumailalim sa pagsasanay upang masigurong matagumpay na naipatutupad ang MTB-MLE sa mga paaralan. Taliwas ito sa isinasaad ng Republic Act 10533 Section 7, na naglalaman ng impormasyon ukol sa edukasyon at pagsasanay ng mga

guro na nagsasabing kinakailangan muling sumailalim sa na mga pagsasanay ang mga guro upang ganap nilang matamo ang mga pamantayang pangnilalaman at pagganap sa ilalim ng bagong K-12 Kurikulum, ngunit hindi direktang nakalagay dito ang pamantayang pagsasanay para sa mga guro ng MTB-MLE. Sa mga susunod na yugto ng pananaliksik ay maglalatag ang mga mananaliksik ng detalyadong deskripsyon ng mga best practices sa implementasyon ng MTB-MLE na naka-angkla sa konteksto ng apat na wikang pinag-aralan.

Ang pag-aaral na ito ay isinagawa ng mga mananaliksik sa panahon ng pagpapatupad sa bagong MATATAG kurikulum, at pagsususpinde ng mother tongue bilang asignatura at sa halip ay ituro kaagad ang Ingles sa unang markahan pa lamang ng mga mag-aaral sa unang baitang upang mahasa ang kaaalaman at katatasan ng mga mag-aaral sa pagsasalita ng wikang Ingles. Ang ideva ng pagtatanggal ng MTB-MLE at pagtuturo kaagad ng wikang Ingles sa mga mag-aaral na Filipino ay bagay na nag-udyok sa mga mananaliksik na isagawa ang papel na ito, upang tukuyin ang mga suliraning kinahaharap ng programang MTB-MLE na posibleng dahilan kung bakit hindi ito naging epektibo. Layunin ng mga mananaliksik na magmungkahi ng planong pagsasanay para sa mga guro upang maging solusyon sa suliraning kinahaharap ng programa.

mungkahing planong Ang pagsasanay para sa kaguruan ay malaking tulong sa pagpapalakas ng MTB-MLE, lalo't aprubado na ang pagsususpinde sa programa, kung saan ang MTB-MLE ay hindi na ituturo bilang hiwalay na asignatura ayon sa DepeEd. Gayundin ang pagpapatupad ng bagong rebisyon ng K-12 kurikulum — ang MATATAG kurikulum. Nakasaad dito ang

pagbibigay pansin sa kahalagahan ng unang wika ng mga mag-aaral partikular sa unang baitang sa pamamagitan asignaturang ng "Language". Ayon sa Kagawaran ng Edukasyon, nakatuon ito sa pagpapaunlad ng kasanayan ng mga mag-aaral sa pagsasalita ng kanilang unang wika. Ang mga asignatura sa unang baitang kung saan kabilang ay makatutulong "Language" ang umano sa transisyon sa pagpapaunlad ng kanilang Cognitive Academic Language Proficiency (CALP) sa asignaturang Ingles at Filipino. mabubuong Ang mungkahing planong pagsasanay para sa mga guro ay maaaring maging kasangkapan upang palakasin ang kaalaman at kompitensi ng mga guro na aangkop kahingian ng pagtuturo sa ng MTB-MLE, at mapaunlad din nito kalaunan ang mother tongue sa kabila ng kinakaharap na isyung pangwika.

Ang pangkalahatang layunin ng isinagawang pag-aaral ay makapagbigay ng mungkahing planong pagsasanay sa pagpapalakas ng Mother-Tongue Based Multilingual Education para sa Kaguruan ng Paaralang Elementarya ng Kaunlaran. Tiyak na layunin ng pag-aaral na itong maisakatuparan at maisagawa ang mga sumusunod:

- 1. Matukoy ang mga suliraning kinahaharap ng mga guro ng Paaralang Elementarya ng Kaunlaran sa pagtuturo ng MTB-MLE sa mga mag-aaral.
- 2. Makapagbigay ng mungkahing planong pagsasanay para sa kaguruan ng MTB-MLE sa Paaralang Elementarya ng Kaunlaran.
- 3. Masuri ang kabisaan ng nailatag na mungkahing pagsasanay para sa kaguruan.

METODOLOHIYA

Disenyo ng Pananaliksik

Ang disenyo ng pananaliksik ay dokumentaryo at kwalitatibo. Pangunahing layunin ng mga mananaliksik na sipatin ang suliranin kasalukuvang ng programang MTB-MLE sa perspektibo ng kaguruan. Ayon kay McLeod (2019), layunin ng kwalitatibong pananaliksik na maunawaan ang sosval na kalagayan ng isang indibidwal 0 isang grupo sa pamamagitan ng pagsipat sa mga 'bakit' at 'paano' ng isang partikular na penomenon sa isang konteksto. Ang isang dokumentaryong pagsusuri ay isang sistematikong pamamaraan ng pagsisiyasat ng mga dokumento kung saan kinakailangang suriin at bigyang kahulugan ang impormasyon upang magkaroon ng panibagong pagsusuri at bumuo ng empirikal na kaalaman (Bowen, 2009). Layunin ng mananaliksik na suriin ang mga dokumentong sumusuporta sa suliraning kinakaharap ng MTB-MLE, kalakip nito ang ebidensiyang datos magpapatunay na may na na kinakaharap suliranin ang implikasyon MTB-MLE ng sa pagsasanay pangguro. Binigyangtuon ng pananaliksik ang pagbabalangkas isang ng mungkahing planong pagsasanay para sa mga guro na nakaayon sa mga makukuhang datos ng mga mananaliksik upang makatulong sa pagpapaunlad ng programang MTB-MLE.

Populasyon at Sampling Teknik

Ang mga guro sa baitang 1-3 na nagtuturo ng MTB-MLE sa Paaralang Elementarya ng Kaunlaran ang mga partisipant na napili para sa panayam ng pag-aaral. May tatlong guro sa baitang 1 tatlong guro sa baitang 2, at tatlo din sa baitang 3.

May kabuoang siyam (9) na guro. Sila ay ang mga partisipant sa bawat baitang na boluntaryong nagpaunlak ng panayam sa mga mananaliksik. Purposive Sampling ang ginamit na paraan sa pagpili ng mga partisipant sapagkat nagtala ang mga mananaliksik ng mga katangian na dapat taglayin ng mga partisipant pangangailangan para sa ng pag-aaral, at ang bawat kinatawan naman na kakapanayamin ay dapat na may 24 malawak na kaligiran, kaalaman, at karanasan sa pagtuturo ng MTB-MLE. Gumamit din ang mananaliksik ng Convenience Sampling sa paraan ng pagpili ng paaralan kung saan idaraos ang pag-aaral. May oportunidad na makapasok ang mga mananaliksik sa Paaralang Elementarya ng Kaunlaran sa madali at mabilis na paraan kaya't ito ang napiling lunan ng pag-aaral. Ito rin ay bunga ng kakulangan ng oras sa pagkolekta ng mga datos sa paaralan para sa pag-aaral.

Pagkolekta ng Datos

Interbyu ang ginamit na instrumento ng mga mananaliksik upang kumalap ng mga datos mula sa piling partisipant sa isinagawang pananaliksik. Hinati sa apat (4) na bahagi ang mga tanong para sa Mga Personal panayam: (1)na Impormasyon na may kaugnayan sa kanilang pagtuturo at kredibilidad bilang guro. (2)Ang Paunang Impormasyon sa Pagtuturo ng MTB-MLE upang bigyang linaw ang pagsasanay patungkol mga sa MTB-MLE at ang kaligiran nito. (3) Kaalaman mga Guro ng sa Programang MTB-MLE na isang mahalagang salik na nakakaapekto sa pagpapalakas ng MTB-MLE at kinakailangan upang makabuo ng mungkahing pagsasanay para dito. At (4) tanong ukol sa pagsasanay pangguro. Ang mga tanong na ito ay magbibigay daan sa mga guro upang mapakinggan ang kanilang saloobin at sariling karanasan sa pagtuturo ng MTB-MLE at sa pagpapalakas nito.

Pagsusuri ng Datos

Sa bahaging ito ng pananaliksik ay sinuri, binigyang-interpretasyon, at inilahad ng mga mananaliksik ang mga datos na nakuha mula sa gurong kinapanayam na nagsilbing pundasyon isinagawang ng mungkahing pagsasanay. Mula sa mga datos na nakolekta, makikita sa talahanayan ang mga lumitaw na pangunahing suliranin ng MTB-MLE sa kaguruan ng Kaunlaran Elementary School.

Mula sa naging tugon ng mga lumabas ang mga naging guro, pangunahing suliranin ng MTB-MLE kabilang na ang pagkakaroon ng ibang First Language o L1 ng mga mag-aaral, pagsasapraktika ng wikang Filipino sa mga asignaturang nakabatay sa wikang Ingles tulad ng Matematika. kakulangan sa implementasyon ng mga pagsasanay-pangguro na kalimita'y dinadaluhan at limitado lamang sa head teachers, mabilis mga na transisyon ng mga mag-aaral sa Matematika na nasa Mother Tongue na midyum sa unang tatlong baitang, at Ingles naman sa mas mataas pang mga antas, at ang suliranin ng pagkakapareho lamang ng asignaturang Filipino at MTB-MLE sa usapin ng mga paksa. Nagtuon ang mga mananaliksik sa suliranin sa nilalaman ng MTB-MLE partikular sa asignaturang Matematika upang higit na mapaunlad ang kabihasaan ng mga guro sa paksa. Sa aspekto naman ng estratehiya sa pagtuturo, naglatag ng mungkahing pagsasanay sa paggamit ng makrong kasanayan na nakabatay sa MELCS o Most Essential Learning Competency. Naglatag din ang mga mananaliksik ng bahagi sa pagbuo ng malikhaing kagamitang panturong tradisyonal, at

makabago na kinasangkapan ng ICT integration batay na rin sa tugon ng mga guro na karamihan sa mga mag-aaral ay mas madaling mapukaw kung ang estratehiyang ginagamit ng guro ay kinasasangkapan ng makabagong teknolohiya. Panghuli, ang aplikasyon at pagsasapraktika nito sa loob ng klase.

Etikal na Konsiderasyon

mga mananaliksik Ang av nakipag-ugnayan sa isa sa dalubguro Paaralang Elementarya ng ng Kaunlaran humingi upang ng pahintulot sa panayam na isasagawa sa mga kinatawan na guro mula baitang 1-3 ng paaralan. Matapos na matanggap ng mga mananaliksik ang pahintulot ay kaagad namang inalam ang detalye kung kailan at sa anong maaaring maisagawa moda ang panayam para sa mga kinatawan na guro.

mga mananaliksik Ang av nagpadala rin ng liham para sa mga gurong naging bahagi ng isasagawang panayam. Kaugnay ng liham na ito ay liham isa ring ang na "Pagbibigay-Pahintulot sa Paglahok ng Isang Pag-aaraal" na sasagutan at ibabalik ng mga napiling partisipant kung sila ay lalahok at kanilang pahihintulutan ang mga mananaliksik sa isasagawang panayaman. Nilalaman ng liham na ito na: sila ay pumapayag na maging partisipant sa pag-aaral, tungkol saan ang pag-aaral, gaano katagal isasagawang panayam, ang ang isasagawang paglahok nila sa pag-aaral ay sa paraang panayam at ito ay rekorded, ang mga datos na makakalap sa pag-aaral na ito ay magiging batayan para sa pagbuo ng isang mungkahing pagsasanay-pangguro para sa pagpapalakas ng MTB-MLE, ang mga datos na nakalap ay kompidensyal at tanging sa pag-aaral na ito lamang gagamitin, gayon din ang hindi sila

© 2024 Hicana et al. ISSN 3028-2179 maaaring pangalanan sakaling mailimbag ang pag-aaral na ito, hindi sila tuwirang makikinabang sa isasagawang pag-aaral, may kalayaan silang hindi sagutin ang katanungang hindi nila nais sagutin, maaaring tuwirang sipiin ang mga sagot sa tanong, at ang paglilinaw na ang paglahok sa pag-aaral na ito ay boluntaryo.

Ang mga artikulong ginamit, kaugnay na pag-aaral, at ang mga konsepto na ginamit sa pag-aaral na ito ay binigyang pagkilala rin ng mga mananaliksik bilang pagpapakita ng etikal na konsiderasyon sa mga ito.

RESULTA AT TALAKAY

Mula sa naging tugon ng mga guro, lumabas ang mga naging pangunahing suliranin ng MTB-MLE kabilang na ang pagkakaroon ng ibang First Language o L1 ng mga mag-aaral, pagsasapraktika ng wikang Filipino sa mga asignaturang nakabatay sa wikang Ingles tulad ng Matematika, mabilis na transisyon ng mga mag-aaral sa Matematika na nasa Mother Tongue na midyum sa unang tatlong baitang, at Ingles naman sa mas mataas pang mga Nagtuon antas. ang mga mananaliksik sa suliranin sa nilalaman ng MTB-MLE partikular sa asignaturang Matematika upang higit na mapaunlad ang kabihasaan ng mga guro sa paksa.

Talahanayan 1. Mga Pangunahing Suliranin ng Kaguruan ng MTB-MLE

GRADE 1	GRADE 2	GRADE 3
 Pagkakaroon ng ibang Li ng mga mag-aaral. 	 Pagkakaroon ng ibang L1 mga mag-aaral. 	 Karamiham sa mga gurong nagururo na ng MTB-MLE ay walang nadaluhang pormal na pagsasanay para dito. Walang regular at pormal na pagsasanay na mihain ang DepEd para sa kanila.

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GRADE 1	GRADE 2	GRADE 3
 Mga termino sa asignaturang sipnayan na naka-Filipino alinsunod sa kinikilalang MT ng paaralan. 	 Mga termino sa asignaturang sipnayan na naka-Filipino alinsunod sa kinikilalang MT ng paaralan. 	 Mabilis ang transition ng mga mag-aaral sa ibang asignaturang nakasalin sa MTB-MLE. Halimbawa ay ang Math na itinuturo sa wikang Filipino mula sa Baitang 1-3 at ingles naman sa mga mas matas. Nagkakaroon ng pagkabigla ang aaral dahilan para sila ay mag – back – to - zero dahil taliwas ito sa nakasanayan nila.
 Sistema ng pagsasanay- pangguro kung saan ang dadalo at ipapasa lang ito sa mga gurong nagtuturo ng MTB-MLE. 	 Sistema ng pagsasanay-pa ngguro kung saan ang head teachers ang dadalo at ipapasa lang ito sa mga gurong nagtuturo ng MTB-MLE. 	 Walang pagkakaiba ang Filipino at ang MTB-MLE sa usapin ng pagiging asignatura.

Sa aspekto naman ng estratehiya sa pagtuturo, naglatag ng mungkahing pagsasanay sa paggamit ng makrong kasanayan na nakabatay sa MELCS o Most Essential Learning Competency. Naglatag din ang mga mananaliksik ng bahagi sa pagbuo ng malikhaing kagamitang panturong tradisyonal, at makabago na kinasangkapan ng ICT integration batay na rin sa tugon ng mga guro na karamihan sa mga mag-aaral ay mas madaling mapukaw kung ang estratehiyang ginagamit ng guro ay kinasasangkapan ng makabagong teknolohiya. Panghuli, ang aplikasyon at pagsasapraktika nito sa loob ng klase.

Talahanayan 2. Content-Based Training

Unang Araw (Content-based)				
7:30 - 8:00 n.u.	Rehistrasyon	Guro ng Palatuntunan at mga Kalahok		
	Pambansang Awit ng Pilipinas	Guro ng		
8:01 - 8:50	Panalangin	Palatuntunan at mga		
n.u.	Pambungad na Mensahe	Kalahok		

Unang Araw (Content-based)				
	Pagganyak na Gawain			
	Paglalahad ng mga Paksang Tatalakayin			
8:51 - 9:00 n.u.	Pagpapakilala sa Unang Tagapagsalita	Guro ng Paluntunan		
9:01 - 10:00 n.u.	Unang Sesyon: Talasalitaan sa pagbilang ng isa (1) - sampung libo (10,000).	Tagapagsana y at mga Kalabok		
10:01 - 10:20 n.u.	Malayang Talakayan	Relation		
10:21 - 10:40 n.u	Saglit na Pahinga			
10:41 - 10:45 n.u	Pagpapakilala sa Ikalawang Tagapagsalita	Guro ng Palatuntunan		
10:46 - 11:45 n.u.	Ikalawang Sesyon: Paggamit ng <i>Place Value</i> ; isahan (1), sampuan (10), sandaanan (100), at libuhan (1000).	Tagapagsana y at mga Kalahok		
11:46 - 12:05 n.t.	Malayang Talakayan			
12:06 - 12:30 n.t.	Pampasiglang Bilang (Mga gawain na may kaugnayan sa mga tinalakay)	Mga Kalahok		
12:31 - 1:30 n.h.	Pananghalian			
1:31 - 1:35 n.h.	Maikling Pagbati para sa Ikalawang bahagi ng pagsasanay.	Guro ng Palatuntunan		
1:36 - 1:40 n.h.	Pagpapakilala sa Ikatlong Tagapagsalita			
1:41 - 2:40 n.h.	Ikatlong Sesyon: Paggamit ng <i>Ordinal Numbers</i> ; una (1st) - ikasampung libo (10,000th)	Tagapagsana y at mga Kalahok		
2:41 - 3:00 n.h.	Malayang Talakayan			
3:01 - 3:20 n.h.	Mga gawain na may kaugnayan sa mga tinalakay	Mga Kalahok		
3:21 - 3:30 n.h.	Paggawad ng Sertipiko	Guro ng Palatuntunan		
3:31 - 3:45 n.h	Pampinid na Pananalita			
3:46 - 4:00 n.h	Ebalwasyon sa Unang araw ng Pagsasanay			

Talahanayan 3. Strategy-Based Training

Ikalawang Araw (Strategy-based)				
8:00 - 8:30 n.u.	Rehistrasyon	Guro ng palatuntunan at mga Kalahok		
	Pambansang Awit ng Pilipinas	Guro ng		
8:31 - 9:10	Panalangin	Palatuntunan at mga		
n.u.	Pambungad na Mensahe	Kalahok		
	Pagganyak na Gawain			
	Paglalahad ng mga paksang tatalakayin			
9:11- 9:15 n.u.	Pagpapakila sa Unang Tagapagsalita	Guro ng Paluntunan		
9:16 - 10:15 n.u.	Ikaapat na Sesyon: Paggamit ng limang makrong kasanayan sa pagtuturo (Pagbabasa, Pakikinig, Pagsusulat, Pagsasalita at Panonood).	Tagapagsana y at mga Kalahok		
10:16 - 10:35 n.u.	Malayang Talakayan			
10:36 - 10:45 n.u	Saglit na Pahinga			
10:46 - 10:50 n.u	Pagpapakilala sa Ikalawang Tagapagsalita	Guro ng Palatuntunan		
10:51 - 11:50 n.u.	Ikalimang Sesyon: Pagbuo ng malikhaing kagamitang panturo (biswal, awdyo, awdyobiswal, interaktibong gawain, atbp)	Tagapagsana y at mga Kalahok		
11:51 - 12:10 n.t.	Malayang Talakayan			
12:11 - 12:30 n.t.	Mga gawain na may kaugnayan sa mga tinalakay	Mga kalahok		
12:31 - 1:00 n.h.	Pananghalian			
1:01 - 1:05 n.h.	Maiking Pagbati para sa Ikalawang bahagi ng pagsasanay.	Guro ng Palatuntunan		
1:06 - 1:10 n.h.	Pagpapakilala sa Ikatlong Tagapagsalita			

Ikalawang Araw (Strategy-based)				
1:11 - 2:10 n.h.	Ikaanim na Sesyon: Integrasyon ng iba't ibang aplikasyon o <i>website</i> sa internet sa pagtuturo ng Sipnayan (jamboard, padlet, nearpod atbp).	Tagapagsana y at mga Kalahok		
2:11 -2:30 n.h.	Malayang Talakayan			
2:31 - 2:50 n.h.	Mga gawain na may kaugnayan sa mga tinalakay	Mga Kalahok		
2:51 - 3:20 n.h.	Maikling Oryentasyon para sa Pakitang turo sa ikatlong araw	Gurong		
3:21 - 3:35 n.h	Paggawad ng Sertipiko	Palatuntunan		
3:36 - 3:45 n.h	Pampinid na Pananalita			
3:35 - 4:00 n.h	Ebalwasyon sa Ikalawang araw ng Pagsasanay			

Talahanayan 4. Classroom-Based Training

Ikatlong Araw (Classroom-based)				
8:00 - 8:30 n.u.	Rehistrasyon	Mga kalahok		
8:31 - 9:20 n.u.	Pakitang-turo: Baitang I - Unang Markahan Most Essential Learning Competencies (MELCs) • Visualizes, represents and counts numbers from 0 to 100 using a variety of materials and methods. M1NS-Ia-1.1	Gurong Magpapakitang- turo		
9:21 - 9:50 n.u.	Malayang Talakayan	Gurong Magpapakitang- turo at Mga kalahok		
9:51 - 10:00 n.u.	Ebalwasyon sa Unang Pakitang-turo	Mga kalahok		
10:01 - 10:50 n.u.	Pakitang-turo: Baitang II - Unang Markahan Most Essential Learning Competencies (MELCs) Gives the place value and finds the value of a digit in three-digit numbers. M2NS-Ib-10.2.	Gurong Magpapakitang- turo		

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10:51 - 11:20 n.u	Malayang Talakayan	Mga Kalahok
11:21 - 11:30 n.u	Ebalwasyon sa Ikalawang Pakitang-turo	Gurong Magpapakitang- turo at Mga kalahok
10:36 - 11:20 n.u.	Pakitang-turo: Baitang III - Unang Markahan Most Essential Learning Competencies (MELCs) • Identifies ordinal numbers from 1st to 100th with emphasis on the 21st to 100th object in a given set from a given point of reference. M3NS-Ic-16.3.	Gurong Magpapakitang- turo
11:21 - 11:50 n.t.	Malayang Talakayan	Mga Kalahok
11:51 - 12:00 n.t.	Ebalwasyon sa Ikatlong Pakitang-turo	Gurong Magpapakitang- turo at Mga kalahok
12:01 - 12:15 n.t.	Paggawad ng Sertipiko	Guro ng Palatuntununa n
12:16 - 12:30 n.t.	Pampinid na Pananalita	

KONKLUSYON

Ang mga sumusunod ang naging konklusyon mula sa buod ng pananaliksik:

- Pangunahing 1. naging suliranin ng mga guro sa pagtuturo ng MTB-MLE ay ang hamon ng mga asignaturang nakabatay sa Ingles na isinalin partikular Filipino; sa sa asignaturang Matematika. Kaugnay na rin nito ang hamon sa transisyon ng pag-aaral sa asignaturang ito.
- 2. May malaking kakulangan sa implementasyon ng mga pagsasanay pangguro ang Kagawaran ng Edukasyon na maaaring naging sanhi ng

pagiging inepektibo ng programang MTB-MLE tulad na lamang ng kakulangan ng sapat na kaalaman sa pagsuri ng MELCS.

- 3. Makapag-aambag ang pagsasanay panggurong ito sa pagtukoy sa mga salik na maaaring makapagpaunlad pa sa pagpapatupad ng MTB-MLE bilang asignatura man o bilang wika ng pagtuturo higit na lalo sa mga lalawigang diyalektong wika sa halip na Filipino ang Mother-Tongue mga ng mag-aaral.
- 4. Masasagot ng pagsasanay ang isa sa mga lumitaw na suliraning kinaharap ng mga guro sa mga nakalipas na taong panuruan sa ilalim ng implementasyon ng programang MTB-MLE na bigong masolusyonan at marebisa ng administrasyon. nagdaang ministrasyon upang ito ay higit pang mapaunlad.

REKOMENDASYON

Batay sa naging kongklusyon ng pag-aaral ay iminumungkahi ang sumusunod:

- 1. Ang pagsasakaturapan ng mungkahing pagsasanay pangguro na inilatag ng mga mananaliksik ay isang tugon sa suliraning kinahaharap ng mga guro sa aspekto ng kanilang kabihasaan o mastery ng pagtuturo sa mga asignaturang gaya ng matematika na itinuturo gamit ang mother tongue.
- 2. Iminumungkahi rin ng mga mananaliksik ang pagsasagawa ng iba pang pagsasanay pangguro kaugnay ng iba pang pinakamahalagang kasanayang pampagkatuto o most essential learning competency.
- 3. Pagkakaroon ng mas malawak na pag-aaral sa iba

pang paaralan upang matukoy ang mga suliraning kinahaharap ng mga guro lalo na sa mga lugar na hindi Filipino ang kinikilalang mother tongue, at doon ay makakabuo rin ng angkop na mungkahing pagsasanay pangguro ang mga susunod na mananaliksik.

4. Muling pagsusuri ng mga memorandum o batas na ibinaba ng kagawaran kaugnay ng programang MTB-MLE upang marebisa batay sa suliraning kinaharap ng mga guro sa nakaraang taong panuruan at matugunan ito sa paglalatag ng mga epektibong paraan.

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Evaluation of Student Reimbursement System for Research Prototypes: Adopt-A-Prototype Program

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ABSTRACT

Educational institutions worldwide forced were to temporarily close and rely on distance education as a substitute for face-to-face instruction. With the aim to continue the provision of quality education, numerous educational institutions preferred the online delivery mode. Apart from online learning, most public schools. particularly those in rural areas, use modular learning modalities. One of the United Nation's Sustainable Development Goals is to "ensure inclusive and equitable promote education and lifelong quality learning opportunities for all" learners. However, studies revealed that this intervention showed that there is a decline in the quality of education meant for students. The lack of financial capability of students from rural areas challenges this goal of providing quality education. To address this gap, the researcher of the current study examined the current financial status of students of two subjects in the Senior High School K-12 Program: Inquiries, Investigations, and Immersion (I3) and Practical Research I. Upon determining the lack of financial support to making the subject's required output (research prototype), the researcher initiate an innovative student reimbursement program, Adopt-a-Prototype, in which private linkages has become part of the research process through sponsorship (adoption) of their work-in-progress (WIP) research prototypes. The innovative reimbursement program has been evaluated by the SHS learners and presented in this descriptive mixed-method research.

Keywords: Education, Index of Successes Model, Prototyping, Reimbursement System, Student Research

INTRODUCTION

Educational institutions worldwide were forced to temporarily close and rely on distance education as a substitute for face-to-face instruction.

© 2024 Angeles, J. D. ISSN 3028-2179 With the aim to continue the provision of quality education, numerous educational institutions preferred the online delivery mode. Apart from online learning, most public schools, particularly those in rural areas, used modular learning

modalities.

For instance, it was found that Filipino students prefer modular learning modality instead of any other distance learning (Manlangit et al., 2020). However, this intervention showed that there is a decline in the quality of education meant for students.

The pandemic has compelled teachers to play a critical role in encouraging and monitoring students' progress in the new educational platform. The demand for continuing education despite the health threats has been the challenge hurdled by the Department of Education amid the COVID-19 pandemic. Along with their adaptation to the new mode of learning, teachers face a variety of difficulties due to the sudden changes in the mode of instruction. For instance. Cardullo et al. (2021)posited that teachers were caught off guard for the distance learning instruction due to a lack of training.

Along with the threats brought by coronavirus to our health are the financial problems arising globally. For instance, it was found that there has been a substantial decline in remittances in the Philippines because of the COVID-19 crisis (Yamada, Shimizutani, & Murakami, 2021). Due to the economic adversities during the pandemic, most of the students from rural areas in the country have limited access to technology that is important in distance learning (Agaton & Cueto, 2021). This global dilemma demands new ways for educators to connect with their students. Innovation in the delivery of the lessons has been a challenge among educators. especially, to applied subjects like Research.

One of the United Nations Sustainable Development Goals is to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" learners. However. the lack of financial capability of students from the rural area challenge this provision of quality education. To address this gap, the current study examined the current financial status of students of two subjects in Senior High School K-12 Program: Inquiries, Investigations, and Immersion (I3) and Practical Research I. Upon determining the lack of financial support to making the subject's required output (research prototype), the researcher initiate an innovative student reimbursement program, Adopt-a-Prototype, in which private linkages has become part of the research process through sponsorship (adoption) of their work-in-progress (WIP) research prototypes.

The Adopt-A-Prototype Program is a reimbursement process initiated to help student researchers of Inquiries, Investigations, and Immersion (I3) and Practical Research I in financing their research prototypes. The adoption of the prototype was initiated in the social media platform, Facebook. Initially, the researcher utilized posters of each WIP prototype of of various groups student researchers posted on Facebook. Sponsorship and pledges give the private individual/group a chance to choose which among the prototypes be adopted. Adoption of the to prototype starts at PhP 300, as it was the minimum budget allotted to each group of students for prototyping. The fund will be consolidated and the actual expenditure of each group of student researchers will be reimbursed. The remaining fund for the Adopt-A-Prototype Program will be used in the Innovative Expo, that is, a research congress, a culminating activity for Grade 11 and Grade 12 students where they exhibit their prototypes research (Innobition: Exhibition) and defend Innovative their conducted research (Data Unveiled: Research Defense)

Purpose of the research

The goal of this research is to determine the effectiveness of the Adopt-A-Prototype Program as a reimbursement system for research prototypes of i3 and PR1 students. Specifically, it will seek to answer the following question: What is the evaluation of the Adopt-A-Prototype Program in terms of:

- 1. Relevance;
- 2. Fiscal Efficiency;
- 3. Effectiveness;
- 4. Impact, and
- 5. Sustainability?

METHODOLOGY

Innovative ideas among student researchers must be harnessed to actualization. Prototyping is one of the processes in research where students

can create an actual model or representation of their solutions or Ideas to solve the research problem they are examining. This study aims to evaluate the Adopt-A-Prototype Program using the Index of Success Model, guided by the following criteria in assessing both the implementation and outcomes of an educational program: relevance, fiscal efficiency, effectiveness. impact, and sustainability. Specifically, this descriptive research study utilized a concurrent mixed-method research design through an electronic survey Google platform. Forms. The quantitative data were presented through frequency tables and graphs, while the qualitative data from the open-ended questions in the survey, analvzed were using thematic and presented analysis through themes.

Participants of the Study

Thirty-two		(32)	student
researchers	from	SY	2021-2022

© 2024 Angeles, J. D. ISSN 3028-2179 answered the online survey questionnaire using Google Forms, while 14 of the 32 respondents answered the open-ended questionnaire voluntarily.

Figure 1. Grade/Section of Respondents



Figure 1 above shows the grade and sections of the respondents. Out 32 student researchers of the representing three SHS Strand: one from Academic Track (STEM12) and two from Technical, Vocational, and Livelihood Track who were the grantees of the Adopt-A-Prototype Program, 100% of the respondents came from the Grade 12 STEM.

Figure 2. Gender of Respondents



Additionally, Figure 2 shows the gender of the respondents. Almost 80% are females, while more than 20% are males. None from among the respondents answered the "prefer not to say" option.

Research Instruments

Quantitative Data

This study utilized a 25-item self-made survey questionnaire. The evaluation tool was based on the Index of Success (IOS) Model (Fisher, 2010). There are sub themes in the questionnaire, survey namely, relevance. fiscal efficiency, effectiveness, and impact, sustainability. Each of the sub of quantitative themes the questionnaire is composed of five questions that are face-validated and content-validated by experts in the field of education.

Qualitative Data

with the 25-item Along quantitative survey questionnaire, open-ended questions two for qualitative data gathering were included. According to the recent review by Opara, Spangsdorf, and Rvan (2023), the use of the online platform Google Docs is particularly useful in addressing time, financial or geographical constraints in empirical investigations. Examining two cases (Ph.D. dissertation) using the online platform as their mode of data gathering for qualitative data, the authors concluded that the use of Google Docs has other advantages such as the generation of insights about the thinking process of the participants as well as the flexibility it offers among users, specifically its capability be used for synchronously and asynchronously data gathering. Thus, the current study utilized the platform for online а deeper understanding of their experiences educational with the program, Adopt-A-Prototype.

Data Analysis

electronic The survey was conducted using Google Forms. Two constituted parts the survey questionnaire: quantitative and qualitative. The quantitative part was presented through a Likert scale type of question, where the five indexes were measured. The first part of the evaluation tool (quantitative) was presented and interpreted using a

© 2024 Angeles, J. D. ISSN 3028-2179 frequency distribution table and bar graphs to describe the responses of the respondents. Simultaneously, the second part, which is composed of open-ended questions, was then interpreted using thematic analysis.

Ethical Consideration

To acknowledge the rights of the respondents who participated in the research, the researchers carefully prioritized the ethical considerations in conducting the research study. Before the conduct of the two-part questionnaire, the informed consent which the respondents must confirm before participation was presented. To secure anonymity and confidentiality, were allocated codes to the respondents. Moreover. onlv the researcher had access to the results of the online survey.

RESULTS AND DISCUSSION

This descriptive concurrent mixed-method study aims to evaluate reimbursement system the for research prototypes, Adopt-A-Prototype Program using the Index of Success (IOS) Model (Fisher, 2010). The results of the quantitative survey through Google Forms are presented below in Table 1 while the themes generated in the qualitative questions in the online survey are presented in Table 2. Furthermore, the scores of each subscale of the IOS Model are presented through graphs (Figures 3, 4, 5, 6, and 7).

Indexes of Success for Adopt-A-Prototype Program

Table 1 shows the percentage of the responses of student researchers evaluation about their of the Adopt-A-Prototype Program, a student reimbursement program for student research prototypes. Based on the data of the Indexes of Success (Fisher, 2010), almost 70% of the respondents "Strongly Agree" reported in all

five indexes.

Furthermore, it can also be described that the respondents rated the Adopt-A-Prototype Program as very relevant, very fiscally efficient, very effective, very impactful, and very sustainable.

Index	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Standard Deviation	Description
Relevance	0%	0%	2%	32%	66%	0.291916	Very Relevant
Fiscal							Very Efficient
Efficiency	0%	0%	6%	29%	65%	0.279264	
Effectiveness	0%	0%	2%	30%	68%	0.29768	Very Effective
Impact	0%	1%	3%	31%	65%	0.281701	Very Impactful
Sustainability							Very
	0%	0%	3%	29%	68%	0.292784	Sustainable

Table 1. Indexes of Success	(Adopt-A-Prototype Program)
Tuble II Indenes of Success	(

To better examine the responses of the respondents to the online survey, graphs were utilized. Specifically, Figure 3 below shows the frequency of their responses for questions 1 to 5 under the Relevance subscale. The graph shows that the highest frequency (24) for Strongly Agree responses is Question 1 while the lowest frequency (19) for Strongly Agree responses came from Question 3 and Question 5 (See Appendix 1). Overall, as indicated in Table 1, the respondents have positive feedback on the overall relevance of the Adopt-A-Prototype Program with 98% of the tallied responses being for Agree and Strongly Agree.

Figure 3. Frequency of Responses for Relevance Subscale



Figure 4 below shows the frequency of their responses for questions 6 to 10 under the fiscal Efficiency subscale. It is shown in the graph that the highest frequency (22) for Strongly Agree responses is tallied under Questions 3 and 4 for the

© 2024 Angeles, J. D. ISSN 3028-2179 Fiscal Efficiency subscale, while the lowest frequency (18) is tallied for Question 1 (See Appendix 1). The respondents have positive feedback for the overall fiscal efficiency of the Adopt-A-Prototype Program with 94% of the responses ais tallied to Agree and Strongly Agree.

Figure 4. Frequency of Responses for Fiscal Efficiency Subscale



Figure 5 below shows the frequency their responses for of questions 11 to 15 under the Effectiveness subscale. It is shown in the graph that the highest frequency (23) Strongly Agree responses is tallied under Question 3 for the Effectiveness subscale, while the lowest frequency (20) is tallied for Question 4 (See Appendix 1). The respondents have positive feedback for the overall effectiveness of the Adopt-A-Prototype Program with 98% of the responses ais tallied to Agree and Strongly Agree.

Figure 5. Frequency of Responses



for Effectiveness Subscale

the Figure 6 below shows frequency of their responses for 20 questions 16 to under the Effectiveness subscale. It is shown in the graph that the highest frequency (23) of Strongly Agree responses is tallied under Question 2 for the Impact subscale, while the lowest frequency (19) is tallied for Question 3 (See Appendix 1). The respondents have positive feedback for the overall effectiveness of the Adopt-A-Prototype Program with 97% of the responses ais tallied to Agree and Strongly Agree.

Figure 6. Frequency of Responses for Impact Subscale



However, it occurs that both Question 1 and Question 2 have a tallied response under Disagree which comprise 1% of the total responses. Moreover, Questions 3 4 and 5 has incurred 2, 1, and 2 responses, which comprise 3% of the total responses under the neutral category. Through insignificant, it shows that not all of the respondents have positive feedback on the impact of the Adopt-A-Prototype Program.

Figure 7 below shows the frequency of their responses for questions 21 to 25 under the fiscal Sustainability subscale. It is shown in the graph that the highest frequency (24) for Strongly Agree responses is tallied under Questions 3 and 4 for the Sustainability subscale, while the lowest frequency (18) is tallied for Question 1 (See Appendix 1). The respondents have positive feedback for the overall fiscal efficiency of the Adopt-A-Prototype Program with 97% of the responses tallied to Agree and Strongly Agree.

Figure 7. Frequency of Responses for Sustainability Subscale



Qualitative Findings

A total of 14 respondents from the 32 participants independently the qualitative answered survey together with the evaluation form using the online platform, Google Forms. The transcribed data from the platform were then analyzed using thematic analysis. Through careful coding categorizing, and interpretation, the following themes in Table 2 were generated.

Question: What aspects of this educational program were most useful or valuable?	Question: How would you improve this educational program?
The Adopt-A-Prototype Program is valuable	The Adopt-A-Prototype Program can be
because of the knowledge and skills	improved by engaging more student
development it provides the student	researchers
ressorchers	
researchers.	
The Adopt-A-Prototype Program is valuable	The Adopt-A-Prototype Program can be
because of its resource utilization and	improved by modifying the SHS Research
sustainability that can be used by the next	Curriculum
hatch of researchers	
baten of researchers.	The Adapt A Ductotrue Ducanon can be
	The Adopt-A-Prototype Program can be
The Adopt-A-Prototype Program is impactful to	improved by extending information
both students and the community because of	dissemination in social media platforms.
the financial and moral support it provides the	•
student researchers	
stuutiit-itistaitiitis	

Table 2. Themes generated from the open-ended questions

Traditionally, evaluating education hierarchical programs is (Fisher, 2010). That is, a superior evaluates subordinates. White this hierarchical nature is oftentimes seen in school settings today, there have been various approaches to systematizing the evaluation of the educational program. Slavin (2020) added that to the long period of education disruption due to the COVID-19 pandemic, there is a demand for evidence-based educational programs derived from educational policies. This demined initiates the creation of the Adopt-A-Prototype Program.

Based on the Indexes of Success model of Fisher (2010), evaluating educational programs is anchored to the school policy being implemented. School policies are then derived from the school's vision. Through these school policies, goals and objectives of the educational institutions can be derived. where the educational program can then be drawn up to achieve these two factors. This understanding can explain the results of the current study. The positive feedback from the quantitative data can be explained by the nature of the Adopt-A-Prototype Program which aims to improve the competence of students-researchers, an objective post-pandemic derived from the theme of the implementing senior

high school which is, Together, We Move Forward. The clear linkage of this innovative reimbursement system for student prototypes to the school policies and academic vision of being a competitive research school explains the positive feedback from the student researchers.

Karalis (2020) added that in the evaluation of an educational program, the most important lesson learned is not whether the urgent solutions or interventions, such the as Adopt-a-Prototype Program worked or were effective. What is more essential is how the student researchers adjust and how their experiences can be used to reflect on the conditions of the formal education system. The themes about the value of the education program in terms of the development of knowledge and skills, sustainability, and support provided by the program as well as their suggestions for improvement such as engaging more students in the educational program, modifying the research curriculum, and extending information dissemination of the educational program are direct results of the student researchers' reflections on the current education system.

CONCLUSION

This concurrent mixed-method study evaluates the Adopt-A-Prototype Program, а reimbursement system for research prototypes. Based on the index of successes model by Fisher (2010), the respondents have positive feedback towards this educational program. It was also revealed in the qualitative data that the educational program is a valuable program because of the development of knowledge and skills, sustainability, and the financial and moral support it provides the student researchers. Furthermore, it was also shown in the findings that a student researcher suggests engaging more students in the educational program, modifying the research curriculum, and extending information dissemination of the educational program.

RECOMMENDATIONS

It is noteworthy to consider Patton's (2011)notion of developmental evaluation for complex programs as well as those programs without a fixed model. Patton (2011) argued that there is a need to move beyond the formative and summative approaches in evaluating educational programs, rather, the aim must be capturing the lessons derived from the program in real time. Developmental Evaluation is a way of being useful in innovative settings goals are emerging where and changing rather than predetermined and fixed, time periods are fluid ... " (Patton, 2011, p. viii).

Based on these concepts, there is a need for further improvement of the evaluation tool utilized by the researcher by utilizing the concept of developmental evaluation. Essentially, it should be noted that in the derivation of the evaluation tool, rather than having the judgment to the aim of the educational program, the constantly changing nature of the program should be considered which then contributes to the creation of the solution. For instance, instead of focusing on critically examining the objective main of the Adopt-a-Prototype Program through empirical evaluations. the acknowledgment of the dynamic nature of the reimbursement system for research prototype, specifically, how it is processed by different stakeholders (students, teachers. sponsors) in the different timeframe in the post-pandemic setting should be considered. This means the contents of the evaluation may be based on the real-time lessons derived from the educational program within fluid time periods.

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Demographic Moderation in the Relationship of Environmental Awareness and Energy Literacy of Senior High School Students

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ABSTRACT

Energy literacy is an aggregate of adoption of energy-saving practices, basic energy knowledge, and understanding of the consequences that energy production and use have on the environment. Energy is a major concern because rising consumption causes both energy shortages and climate-damaging scenarios. This study investigated how demographic characteristics, in one public secondarv high school in Laguna, moderated the relationship between senior high school students' energy literacy and environmental awareness. A cross-sectional explanatory research design was employed to collect and interpret the data gathered from 270 respondents. The adapted and content-validated instruments. Energy Literacy Survey and Environmental Awareness Questionnaire were administered through survey method. Using PROCESS v3.5, a moderation analysis was performed in accordance with Hayes (2013) framework. The findings revealed that the energy literacy and environmental awareness are both above average. The demographic factors, strand and grade level, moderate the relationship between environmental awareness and energy literacy. This indicates that the influence of environmental awareness to energy literacy may vary based on the strand and grade level of the respondents. It is recommended to highlight improving energy literacy through curriculum enhancement, educational programs and events, and instructional designing grounded on the students' environmental awareness, senior high school discipline, and academic level.

Keywords: demographic factors, energy literacy, environmental awareness, moderation analysis

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INTRODUCTION

essential issue Energy is an because of the rising consumption results in both energy shortages and greenhouse gas emissions that harm the climate. Energy production and use present a challenge that calls for understanding and behavioral changes at every level of society. Energy is essential for achieving social, economic, and development in sustainable development, and the issues can be studied as an interdisciplinary topic from the point of view of science and environmental concepts at the domestic level to a worldwide social perspective (Lee et al., 2015). Energy is essential in our lives and daily all scientific disciplines. Energy-related subjects are relevant to all branches of science as well as engineering, politics, social science, and economics. Thus, it is a necessary concept for students to learn in school.

Energy literacy is viewed as an educational initiative that paves the way for a more energy secure future by encouraging people to make wise energy-related decisions in their day-to-day lives (DeWaters & Powers. 2011). Education is a pedagogic activity that will contribute to individual awareness and both medium- and long-term shift in attitude and values from society. It enables people to participate in issues related to energy efficiency, reducing the behavioral barriers (Dias et al., 2004). Energy literacy is important because informed citizens can help design and implement intelligent, forward-thinking policies. People have misconceptions about energy, which may persist into adulthood in young students. (Yeh et al., 2017). Energy literacy is also a component of social and natural science literacy as it also necessitates thorough а understanding common of citizenship, history, economics,

sociology, psychology, politics, and economics. These topics cannot be fully understood through a scientific or technological approach alone (Lee et al., 2015).

Teaching and learning energy encounter pedagogical literacy challenges as it has emerged as one of the most significant subtopics in textbooks (Mažeikienė science & Norkutė, 2021). Many textbooks failed knowledge provide regarding to energy in explicit themes and the new energy paradigm that is required for the growth of a new green economy (Yeh et al., 2017). Energy literacy should be taught in a green economy, and teachers should use various pedagogical techniques, teaching resources, and supportive learning settings to accomplish this (Yeh et al., 2017). Integrating energy literacy into curriculum fosters understanding of sustainable practices, informs decision-making, and prepare students for addressing global energy challenges effectively.

To include lessons on energy efficiency and conservation in the curriculum of Philippine schools, the Department of Energy increased the cooperation level of with the Department of Education (DepEd), the Commission on Higher Education (CHED), and the Technical Education Skills Development Agency and (TESDA) (Philippine Energy Plan 2018-2040). National The Environmental Awareness and Philippines Education Act. or Republic Act No. 9512 encouraged all school curricula include to such environmental education as practices energy-saving for sustainable development. Likewise, Republic Act (RA) 11285-also known as the "Act Institutionalizing Energy Efficiency and Conservation, Improving the Efficient Use of Energy, and Granting Incentives to Energy Conservation Efficiency and Projects"-was also passed.

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of 2019) (Department Energy, promote the wise and efficient use of all energy resources, increase the use of energy-efficient and renewable energy technologies, and provide a framework for adopting and institutionalizing core energy efficiency and conservation policies.

There is a need to underscore energy literacy in school due to inconsistent awareness, despite widespread concern among educational leaders and policy makers. Students must be encouraged to discuss and think critically about energy in order to become energy literate, bringing it from the domain of the practical and into the domain of discussion (Attari et al., 2010). Conversely, research by Djordjevic and Cotton (2011) and Winter and Cotton (2012) suggests contradictory or that competing signals in the campus setting can undermine sustainability teaching in the formal curriculum or communication on sustainability official through channels. For instance, there are no installations that can be seen on campus, even if courses may address the possibilities of renewable energy sources like solar or wind power. These are major barriers to the growth of energy literacy in education, since a large percentage of student learning occurs outside of formal teaching and learning environments (Barth, 2013).

view of these, researchers In uncovered that there is a lack of local study about energy literacy in the Philippines. This research also raises the issue that energy literacy is not classrooms addressed in level. Likewise, energy literacy the of Filipino students appears to receive little attention from various institutions educational (Aruta, 2022). Usman and others (2020) argued that increasing energy literacy in schools for students is necessary emphasizes and research and

development of energy topics. Furthermore, the curriculum does not provide many opportunities for students to increase their energy literacy (Bahrami & Mohammadi, 2021; Van Treuren & Gravagne, 2008). Consequently, there is a need for more energy-focused curriculum and instructional resources to better educate the next generation (Cotton, Research suggests 2015). that demographic profile such as households with a high income and residing in a modern home are more likely to be energy literate (Trota et al. (2017). These scenarios prompted to investigate the relation of demographic factors to environmental awareness and energy literacy. Hence, the purpose of this study is to assess the statistical connection among environmental awareness, energy literacy, and students' demographic characteristics. Furthermore. this study sought to find out the moderating role of demographic factors in the relationship between environmental awareness and energy literacy.

STATEMENT OF THE PROBLEM

This study aims to examine the demographics, environmental awareness, and energy literacy of the senior high school students in one public secondary school in Nagcarlan, Laguna. Specifically, it aims to answer the following questions:

- 1. How can the respondents be described in terms of:
 - 1.1.sex;
 - 1.2. grade level;
 - 1.3. senior high school strand; and
 - 1.4. socio-economic status
 - 1.5. Junior High School type?
- 2. What is the level of the environmental awareness of the students?
- 3. What is the level of the energy literacy of the students in terms of:
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- 3.1.cognitive/knowledge;
- 3.2. affective; and
- 3.3. behavioral domains?
- 4. Does environmental awareness significantly predict energy literacy?
- 5. Do the students' demographics significantly moderate the relationship between environmental awareness and energy literacy?

METHODOLOGY

Research Design

This study utilized quantitative cross-sectional explanatory research design. According to Hunziker and Blankenagel (2021), this research design aims to explain broad relationships between various components and conditions. Similarly, Gay (1999) claimed that this form of data collection is used to test a hypothesis or respond to inquiries about the subject's current situation. It is a type of research that tries to answer the questions of who, what, when, where and how. This research design is deemed appropriate for the purposes of the study since it seeks to uncover the underlying relationship among demographic factors, energy environmental literacy, and awareness.

Respondents of the Study

This study has been conducted at Plaridel Integrated National High School (PINHS); the school is located at Brgy. Banago Nagcarlan, Laguna. Moreover, the school offers various curricular programs such as Science Humanities and Social (HUMSS), Accountancy, Business and Management (ABM), Science, Technology, Engineering and **Mathematics** (STEM), and Technical-Vocational-Livelihood Strand-Home Economics (HE),

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Information, Communication and Technology (ICT) Strand. and Agricultural-Fishery Arts (AFA). The respondents of this study are 270 students from Grade 11 and Grade 12. This sample size was based on the sample size calculator with 95% confidence level, 5% margin of error, and 50% population proportion. This used simple research random sampling technique wherein a random sampling technique is employed by researcher to select the а representative subset of participants an overall population. The from characteristics were detailed in Table 1.

Research Instruments

This study adopted two different survey questionnaires to form part on the survey form to collect the necessarv data to address the research problems. The survey form is composed of three parts: The first part aimed to collect the demographic characteristics of the respondents as to age, sex, grade level, academic strand, JHS school type, socio-economic status. The second part measures the environmental awareness of the respondents. The study adopted the Environmental Awareness Questionnaire from the work of Laso, Marban, and Ruiz (2017). It is composed of 25 items measured in four-point Likert scale from "1 - strongly disagree" to "4 strongly agree", wherein the internal consistency of this scale was supported by a value of Cronbach Alpha of 0.87. The third part was the Energy Literacy Surveys from DeWaters and Powers (2013)composed total items which of measured three dimensions namely cognitive/knowledge, behavioral, and affective domains. The affective and behavior subscales of this questionnaire have Cronbach's alpha values that show high reliability at

0.757 and 0.780 respectively, while cognitive/knowledge subscale has a Cronbach's alpha value that show moderate reliability at 0.564. The cognitive/knowledge dimension is composed of multiple-choice items that are objective in nature. There is internal consistency among the items of this instrument based on these values. The demographic characteristics were collected using survey form. The research sought permission to use the adopted instruments through electronic e-mail. The instrument and its sub-sections underwent expert validation and gained favorable outcomes.

Data Collection

The data were gathered using a survey method in a span of one week. The researchers asked permission to conduct the study in the research site to the school head. Upon approval, the endorsements channeled to key personnel involved such as head master teacher, research teacher, coordinator, and subject teacher in the research site directly related to the target respondents. The research instruments were administered in face-to-face setting to ensure the high-response rate. In observance of protocols, proper research the instrument came with an informed consent form stating the rationale, objectives, and procedures of the study. It also stated that their participation is entirely voluntary and they may opt to withdraw their participation without explanation. The researcher ensured the high response rate by directly coordination with the research coordinator.

Data Analysis

The data that had been collected were treated using statistical analysis to answer the research problems.

Descriptive statistics such as frequency, percentage, mean, and standard deviation with corresponding verbal interpretations were used to demographic describe the characteristics, environmental awareness, and energy literacy of the respondents. Inferential statistics such as Pearson correlation r, linear regression, and moderation analysis initiated examine were to the relationship among the aforementioned variables. Correlation analysis using Pearson correlation coefficient was performed to determine the association among the study variables prior to regression moderation analysis. То and determine the direct effect of environmental awareness to energy literacy, linear regression was employed. Moderation analysis was performed based on the procedure of Haves (2014) using the PROCESS v3.5. Separate moderation analysis was conducted for each demographic moderators based on Haye's (2014) model 1, a simple moderation model.

RESULTS AND DISCUSSION

The study the examined demographic moderation the in relationship between environmental awareness and energy literacy of senior high school students in one public secondary high school. It also investigated the direct effect of environmental awareness to energy literacy. It further described the demographic characteristics. environmental awareness, and energy literacy.

The demographic characteristics profiled included age, sex, grade level, strand, junior high school type, and socio-economic status. The details of these demographic characteristics are presented in Table 7. Out of the 270 responses that were eligible for the study, 54.4% were identified as male and 45.6% were identified as female.

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Students

Table 2. Descriptive Statistics of the Dimensions and Sub-dimensions of Energy Literacy of Senior high School

Profile		f	%
Age	16	36	13.3
(Years	17	107	39.6
old)	18	94	34.8
	19	21	7.8
	20	7	2.6
	21	2	0.7
	22	1	0.4
	23	2	0.7
Sex	Female	123	45.6
	Male	147	54.4
Grade	Grade 11	150	55.6
Level	Grade 12	120	44.4
Strand	ABM	30	11.1
	AFA	60	22.2
	HE	32	11.9
	HUMSS	30	11.1
	ICT	58	21.5
	STEM	60	22.2
Type of	Private	8	3.0
JHS School	Public	262	97
Socio-eco	Poor	176	65.2
nomic	Low-income	65	24.1
Status	class (but not		
	poor)	10	7.0
	middle-income	19	7.0
	class		
	Middle	7	2.6
	middle-income		
	class	2	0 7
	Upper middle income	2	0.7
	class		
	Upper-income	0	0
	class (but not	-	-
	rich)		_
	Rich	1	0.4

Table 1. Distribution of Students'Demographic Characteristics (n=270)

The study found that 55.6% of participants were at the grade 11 level, while the remaining 44.4% were at the grade 12 level. The strand that encompasses Science, Technology, Engineering, and Mathematics (STEM) is reported to have а similar 22.2% percentage of as the Agricultural-Fishery Arts strand. The majority of participants in the study were classified as having a low socioeconomic status, with 65.2% of the sample falling into this category.

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Dimensions and Sub-dimensions	Mea n	Interpretati on	
Cognitive /Knowled	59	3.6	Did not meet
cognitive/ Knowled	59	3.0	Expectations
Scientific	69	10	Did not most
Basia Fasta	00	1.0	Emeratoriana
Basic Facts	60	1	Expectations D:1 and month
issues	02	1.0	Did not meet
Turner at a	C 1	4	Expectations
Impacts	01	1.0	Dia not meet
0.16	0.61	1	Expectations
Self-assessme	2.61	0.9	Somewhat
nt		3	informed
Affective ^b	3.66	0.4	Agree
		6	
Self-Efficacy			
Internally	3.58	0.7	Agree
empowered		0	
Externally	3.15	0.7	Neutral
Empowere		9	
d Attitud land Alfaha			
Attitudes & Valu	les	0.5	0, 1
Awareness	4.34	0.5	Strongly
		3	Agree
Values	3.56	0.5	Agree
		9	
Behavior ^₀	3.57	0.8	Agree
		1	
Personal			
Behavior			
Behavioral	4.27	2.3	Strongly
Frequencie		7	Agree
S W/illing over a set	2.00	0.0	A
wiiingness	3.69	0.8	Agree
	0.00	7	
Energy Use	2.83	1.0	Neutral
Assessmen t		5	
د Family Behavior			
Family	3 61	2.1	Agree
Frequencie	5.01	2.1	ABICC
s		3	
Lemend: 400 100	Outate	n a dia a)	. 95 10 (Vam)

Legend: "90 -100 (Outstanding); 85-19 (Very Satisfactory); 80-74 (Satisfactory); 75-79 (Fairly Satisfactory); Below 75 (Did not meet Expectations); b4.20-above (Strongly Agree); 3.40-4.19 (Agree); 2.60-3.39 (Neutral); 1.80-2.59 (Disagree); 1.00-1.79 (Strongly Disagree)

The findings indicate that the participants did not attain the anticipated level of proficiency in the cognitive domain. The findings show that the cognitive domain is absent among students, emphasizing the need for improvement in this area as it is a crucial aspect of energy literacy. The respondents' self-assessment falls under the "somewhat informed" category, as evidenced by their low level of knowledge (M=12.99, SD=3.63). The

data shows the highest mean value in affective is the Awareness (M=4.34, SD=0.53). This means that the respondents are aware about the importance of energy and it should be part of every school's curriculum. In addition, the respondents agree that every Filipino should conserve more energy. On the other hand, the lowest mean value in Affective is Externally Empowered (M=3.15, SD=0.79). The data indicates that the participants exhibit self-reliant approach а towards energy conservation, without factors relying on external or individuals. The research findings suggest that an individual's attitude towards energy should begin with self-reflection and personal responsibility.

In the behavioral dimension, the highest mean value is the Behavioral Frequencies (M=4.27, SD= 2.37). It concludes that all decisions should be affected by the thoughts on energy use, such as turning off the light when you are leaving or turning off the television when it is not using. However, the lowest mean value is the Energy Use Assessment (M=2.83, SD= 1.05). This concludes that when it comes to energy use, the respondents should try to save energy. Since energy-saving behaviors are when people are willing to do more things to save energy, like using less electricity, because they are concerned about the environment. The Affective and Behavioral dimension result shows that the senior high school students are aware of problems regarding energy (Affective: M=3.66, SD=0.46). In addition, the respondents are willing to contribute to solve energy problems by making more of the electricity from renewable energy. Such as more wind farms should be built to generate electricity (Behavior: M=3.57, SD= 0.81).

Table	3.	Des	criptive	Sta	atist	ics	of
Enviro	nme	ntal	Awarene	ess	of	Sen	ior
high S	choc	ol Stu	dents				

Indic	ators	Mea	SD	Inter
		n		preta
				tion
Behai	vioral			
1.	Reuse used paper	3.01	1.27	Agree
2.	Provide a second	2.78	1.17	Agree
	use of different			
	materials for			
_	classroom work	0.5-		
3.	Promote activities	2.60	1.28	Agree
	in the natural			
4	environment	2.12	1.00	۸
4.		3.13	1.32	Agree
	insules on a basis			
	component in the			
	training of my			
	students			
5	Participate as a	2.38	1 17	Agree
0.	volunteer in	2.00	1.17	TIGICC
	school			
	environmental			
	conservation			
	campaigns			
6.	Choose subjects	2.53	1.20	Agree
	that deal with			0
	environmental			
	issues because I			
	feel I do not know			
	enough			
Conce	ern to			
Envire	onmental Problem	0.75	1	
7.	Contamination of	2.73	1.19	Agree
0	the atmosphere	0.70	1.07	۸
8.	Contamination of	2.12	1.37	Agree
0	Decrease of the	0 50	1.04	Acros
9.	ozone laver	2.00	1.00	Agree
10	Climate change	2 78	1.02	Agree
10.	and global	2.10	1.02	ngice
	warming			
11	Extinction of	2.56	1.40	Agree
	animal and plant	2.00	1.10	0- 00
	species			
12.	Discharges of	3.03	1.36	Agree
	industrial waste			0
13.	Desertification	2.91	1.33	Agree
	and soil erosion			-
14.	Discharges to	2.77	1.43	Agree
	inland water			
	bodies			
Affirm	nations to			
Envire	onmental			
Awar	eness Dianta 1	0.07	1.05	A
15.	Plants and	2.97	1.25	Agree
	animals have as			
	much right as			
16	inumans to exist	0.40	1 00	Diaco
10.	on their present	∠.40	1.28	Disag
	on their present			ree
	course, we will			
	maior ecological			
	catastrophe			
17	The balance of	2.86	1.31	Agree
17.	nature is verv	2.00	1.01	ngice
	delicate and			
	easily upset			

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18. Humans are severely abusing the environment2.781.24Agree19. In order to achieve sustainable development, a balanced economic situation is needed in which economic growth is controlled2.831.27Agree20. When humans interfere with nature it often produces disastrous consequences2.531.28Agree21. There are more important things to do in life than protecting the environment3.011.24Agree22. There are more important things to do in the classroom than to teach to protect the environment3.011.24Agree23. The degree of environment3.011.26Agree24. I consider it influences his students2.691.33Agree25. The university should include more field activities because they help to better understand the2.621.21Agree	Indica	ators	Mea n	SD	Inter preta tion
the environment 19. In order to achieve sustainable development, a balanced economic situation is needed in which economic growth is controlled 20. When humans interfere with nature it often produces disastrous consequences 21. There are more important things to do in life than protecting the environment 22. There are more important things to do in the classroom than to teach to protect the environment 23. The degree of environment 24. I consider it influences his students 24. I consider it influences his students 25. The university 25. The university should include more field activities because they help to better understand the	18.	Humans are severely abusing	2.78	1.24	Agree
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development, a balanced economic situation is needed in which economic growth is controlledAgree20. When humans interfere with nature it often produces disastrous consequences2.531.28Agree21. There are more important things to do in life than protecting the environment3.011.24Agree22. There are more classroom than to teach to protect the environment3.011.24Agree23. The degree of imfluences his students3.011.26Agree24. I consider it interesting to receive environmental training2.621.21Agree25. The university should include more field activities because they help to better understand the2.621.21Agree		sustainable			
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Legend: 3.25-4.0 (Strongly Agree); 2.5-3.25 (Agree); 1.75-2.5 (Disagree); 1.0-1.75 (Strongly Disagree)

The table depicts that the indicator 4 has the highest mean 3.13. It concludes value of that issues environmental should be integrated in the training of the students. When teachers educate about the environment in education, children learn environmental literacy, which helps them protect the environment at home, at work, and in

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community through their their responsible decisions. Awareness of environmental issues, as well as the connection between this awareness and activities performed within the classroom or community to lessen the environmental impact of their operations. The findings imply that a comprehensive approach to teaching is necessary for students to gain an awareness in-depth of various environmental concepts and knowledge.

Furthermore, the finding of the highest mean value provides evidence that contradicts the claim made by the student that there exist greater priorities to pay attention to in the classroom than educating students on environmental protection. Research suggests that students are more likely to develop a strong understanding of environmental awareness when they receive adequate education and have opportunities observe positive to attitudes towards environmental awareness. However, the findings of this study also indicate that a large majority of the participants do not support the view that constant damage to the environment will result in significant ecological catastrophes (M=2.40, SD=1.28). According to the respondents' perception, there appears to be a belief that the current status of the environment has no significant impact on the environment. The findings suggest that the respondents perceived a low level of risk associated with potential environmental damage and disasters.

Most of the respondents agree upon doing a positive behavior relative to the Environment and it is important to teach on how to protect the environment (M=3.20, SD=0.34). Given the attitudes and behavior of the young people towards environment are so important for environmental conservation, is it necessary to understand the factors

that facilitate these attitudes and behaviors. The empowerment of young people to participate actively in improvement the of their surroundings by cultivating positive attitudes and behaviors might result from the promotion of positive development among young people. Lualhati According to (2019).including students the in environmental education is essential to developing a sense of awareness and engagement in them as well as educating them on ecological principles that strive to maintain a balance between the wellbeing of the individual, society, and environment. Since, including students will help in developing their knowledge of the environment as well as their capabilities and awareness of how to deal with global issues. It has the potential to bring about profound changes in both individuals and society. It does both informing and inspiring work. It has an effect on people's attitudes. It inspires one to take action

Table 4. Correlation Analysis of Students' Demographics, Environmental Awareness, and Energy Literacy

Va	riables	1	2	3	4	5	6	7
1.	Sex							
2.	Grade Level	0.040						
3.	Strand	0.157	0.104					
4.	Type of School	-0.02 8	-0.06 3	-0.061				
5.	Socio-econom ic Status	-0.00 1	0.109	0.058	-0.0 23			
6.	Environment al Awareness	-0.07 1	0.076	0.119	-0.0 12	-0.002		
7.	Energy Literacy	-0.09 3	-0.08 4	0.138**	-0.0 17	-0.035	0.159* *	

Legend: *=p <.05; **=p <.01; ***=p <.

This study demonstrates the only variables to emerge are the strand and energy literacy and environmental awareness and energy literacy. This study demonstrates a positive statistically significant correlation between strand and energy literacy (r=0.138, p<0.01). In addition, the findings suggest that environmental awareness and energy literacy (r=0.159, p<0.01) share a positive correlation with one another. According to the study of Dwyer (2011) that energy literacy, which is a part of environmental education and contributes to the process of establishing a sense of environmental responsibility, continuously grows. It suggests that as individual engage in learning about energy-related they not only acquire concepts, knowledge but also play a significant

role in fostering improved sense of environmental responsibility.

The findings indicate a positive correlation between environmental awareness and energy literacy, increase suggesting that an in environmental awareness is associated with corresponding а energy literacy. increase in This implies that as the students become more environmentally conscious, there is a concurrent rise in their understanding of energy-related matters. To address interconnected global concerns like climate change, loss of biodiversity, unsustainable use of resources, and inequality, learning about energy and the environment awareness should be a process that continues throughout one's life and is an essential component of an education that is of excellent quality.

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education naturally Energy incorporates scientific courses, which can improve overall scientific, technological, or environmental literacy of the students (DeWaters & Powers, 2011).

Furthermore, the chosen strand has a positive relationship with Energy Literacy. This suggests that the strand has an important role in the energy literacy of an individual.

Each strand has a specialized subject, this concludes the specialized are helpful in discussing energy. Studies have shown that those with more information about environmental issues and their consequences, as well those who hold as pro-environmental attitudes, beliefs, values, and self-transcendent goals and motives, are more likely to execute energy conservation at home (Arnon & Orion, 2015).

Table 5. Direct Effect of Environmental Awareness to Energy Literacy R²=0.025, Adj. $R^2 = 0.022$

	Unstan d Coef	95% Confidenc e Interval		
	β	SE	t	р
constant	4.848	0.719	6.74 5	0.000
Environment al Awareness	0.591	0.224	2.64 4	0.009

Table

presents the finding from the linear regression analysis to explain the direct effect of environmental awareness to energy literacy. Based table, environmental on the awareness merged to be a significant predictor of energy literacy based on β-coefficient and the pvalue $(\beta=0.591, p<0.05)$ at 95% confidence interval. This suggests that the variation in the energy literacy of the respondents can be explained by their environmental awareness. Based on the statistical analysis, there is a significant relationship between the respondents' level of environmental awareness and their energy literacy.

5

Energy literacy is most likely part of environmental awareness this is supported by the measured p-value Specifically, an increase in environmental awareness is associated with a corresponding increase in energy literacy. This further indicates that a one-unit change in energy literacy can institute 0.591-unit change in energy а literacy, assuming other factors are held constant. Hence, the first alternative hypothesis stating that environmental awareness significantly predicts energy literacy is supported. based on the computed p-value at 95% confidence interval.

		9	5			
	β	SE	t	р	LLCI	ULCI
Sex	.2383	.4653	.5121	.6090	6778	1.1544
		R=.1819,	R ² =.0331, MSE=	=1.5564,		
		F=	(3.0344), p=.517	75		
Grade	-1.1758	.4579	-2.5678	.0108	-2.0773	2742
		R=.2411,	R ² =.0581, MSE=	= 1.5161,		
		F=	(5.4703), p=.001	12		
Academic Strand	3153	.1216	-2.5916	.0101	5548	0757
		R= .2518,	R^2 = .0634, MSE	= 1.5079,		
		F=	(6.0028), p=.000	06		
SSE	2015	.2369	8505	.3958	6680	.2650
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Table 6. Moderating Effect of Students' Demographics in the Influence of **Environmental Awareness to Energy Literacy**

	β	SE	t	р	LLCI	ULCI	
R= .1711, R ² =.0293, MSE= 1.5625,							
F= (2.6738), p=.0477							
JHS Type	1.0156	1.1077	.9169	.3600	-1.1652	3.1965	
R = .1694, R^2 = .0287, MSE=,							
		F=	(2.6205), p=.05	512			

Legend: Significant if p<0.05; Not Significant if p>0.05

The study aimed to investigate the potential moderating effect of sex on relationship between the environmental awareness and energy literacy. Female and male are the terms used to describe sex roles. The Statistical analysis revealed that the model had no significant overall effect, with a R=.1819, a F (3,266) = 3.0344, and a p-value of .5175. The findings indicate that there is no statistically significant interaction between environmental awareness and sex (β = -.9716, t (266) = -.6481, p=.5175). The data presented in this study provides evidence to support significance of the the model. Meaning there is a relationship between literacv energy and environmental awareness. However, it does not provide enough evidence to support the significance of any particular sex that moderate the relationship.

The study aimed to investigate the potential moderating effect of Grade the relationship between on **Environmental Awareness and Energy** Literacy. Specifically, Grade 11 and Grade 12 levels are used to define their grade. The Statistical analysis revealed that the model has a significant overall effect. with а R=.2411, a F (3,266) = 5.4703 and a of .0012. The p-value findings indicate that there is a statistically significant interaction between environmental awareness and grade (b=3.5241, (266)= t 2.3878.p=.0176). The effect of environmental awareness on energy literacy can be predicted by the grade level. In that case, grade level is said to be a moderator environmental of

awareness' effect on energy literacy. According to the the findings, the grade 11 level has a significant effect on environmental awareness and energy literacy, as evidenced by the coordinator effect value of 1.055 and significant interaction with a p-value of 0.0002. However, the findings indicate that grade 12 has no significant interaction with the p-value of .7401 and the coordinator effect value of -.120 the grade 12 energy literacy, which in turn predicts the environmental awareness of grade 12. Given the data, it appears that possess grade students 12 а significant level of energy knowledge, likely due to their knowledge that they have already engaged with this subject matter in their specialized classes.

In the next regression analysis, the variable strand was based on the six categories such as STEM, HUMSS, ABM, ICT, and AFA. The results indicated that the overall model was significant R (.2518), F (3,266) = 6.0028, p = .0006. There was also a significant interaction for environmental awareness and strand $(\beta = 1.1072, t (266) = .7957, p =$.0059. This suggests that strand acts as a moderator of the relationship environmental awareness between and energy literacy. The effect of environmental awareness on energy literacy can be predicted by the academic strand. In that case, strand said to be а moderator is of environmental awareness' effect on energy literacy. According to the findings that in strand of Agricultural-Fishery Arts (AFA) that significant effect has а on

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environmental awareness and energy literacy, evidenced bv as the coordinator effect value of 1.0538 and significant interaction with a p-value of 0.0005. However, the findings indicate that Humanities and Social Sciences (HUMSS) that have coordinator effect value of .4233 has significant interaction with a no Science, p-value of .0621 and Technology, Engineering, and Mathematics (STEM) that have coordinator effect value of -.2072 has no significant interaction with p-value of .5686. It appears that students in STEM fields have an advanced level of understanding regarding energy, as they are subjected to a wider range of sp energy.

The study aimed to investigate the potential moderating effect of socioeconomic status on the relationship between environmental awareness and energy. Specifically, the monthly income of participants' parents was utilized as a measure of socioeconomic status. The statistical analysis revealed that the model had a significant overall effect, with a R= .1694, a F (3,266) =2.6738 and a p-value of 0.0477. The findings indicate that there is no statistically significant interaction between environmental awareness and socioeconomic status (β =.5911, t = 0.7779, p =.4373). The sample data presented in this study provides evidence to support the significance of the model. However, it does not provide enough evidence to support the significance of any particular socioeconomic status.

For the next regression analysis, junior high type of school was analyzed as a binary moderator variable, using public and private scores with the average scores of the energy literacy used as the dependent variable, and the average scores of the environmental awareness as the independent variable. The results indicate that the overall model was not significant R (.1694), F (3,266) =2.6205, p = .0512. There was also no significant interaction for environmental awareness and junior high type of school (β = -3.3796, t (266) = -.9404, p = .3478), indicating that type of school does not moderate relationship the between environmental awareness and energy literacy. This suggests that whether in public or private educational institutions, the observed positive between environmental correlation awareness and energy literacy remains consistent.

The study revealed that the "strand" variable demonstrated а significant moderating effect on the relationship between environmental awareness and energy literacy. The frequency of STEM and AFA as the most prominent fields suggests a focus on Environmental Awareness and Energy Literacy within these areas of study. This implies that the connection between environmental awareness and energy literacy is influenced by the specific academic discipline of the individuals involved. Environmental awareness is a crucial aspect of scientific education for the students. Science students should be well-versed in environmental concepts and should possess а deep understanding of environmental issues and problems (Rogayan & Nebrida, 2019).

The summary of the interpretation is that the alternative hypotheses stating that environmental awareness significantly predicts energy literacy moderated by age, sex, socioeconomic status, JHS type are all rejected are based on the computed p-value at 95% confidence interval.

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On the other hand, the alternative hypothesis stating that grade level and academic stand significant moderates the relationship between environmental awareness are accepted. Therefore, the alternative hypothesis2 stating that environmental awareness significantly pre predicts energy literacv moderated by strand and grade level is accepted based on the computed p-value at 95% confidence interval.

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study is to the statistical connection assess exists among environmental energy literacy, awareness, and students' demographic characteristics. Furthermore, this sought to find study out the moderating role of demographic factors in the relationship between environmental awareness and energy literacy. Based on the findings, the following conclusions were made: The senior high school students generally themselves reported as relatively above environmental average and literacy. awareness energy Furthermore, environmental awareness has a significant direct and positive effect to energy literacy. implies that environmental This awareness can explains the variation energy literacy among of the respondents. In addition to this, the relationship between environmental awareness and energy literacy is not significantly moderated bv the students' demographic characteristics as to sex, age, socioeconomic status, and junior high type of school. On the other hand, the academic strand and grade level demonstrated significant moderating effects in the relationship between environmental awareness and energy literacy. This suggests that the effect of environmental awareness to energy literacy differs based on the academic level and strand of the students.

This study recommends the following based on the salient findings of the study: The inclusion of energy concepts and principles to the curriculum, education programs and events, and school administrations to provide more opportunity to improve the energy literacy of the students, especially in the cognitive domain. For teachers, educators must prioritize the instruction of energy and awareness-related environmental subjects as fundamental components learning. students' Exploring of alternative and stimulating activities related to energy and the environment contribute mav to enhancing students' literacy and awareness. Furthermore, integrating real-world examples, hands-on experiments, and case studies into the curriculum can provide students with practical insights into the application of energy and environment concepts. Through designing an interactive learning environment, educators can encourage students' interest and facilitate more profound connection to the material. Furthermore, fostering open discussions and encouraging critical thinking about the current environmental challenges can empower the students to develop sense of responsibility in addressing these issues.

For students, researchers suggest that increased student involvement in community or school activities related to energy can lead to enhanced energy literacy and environmental awareness. Attending seminars focused on energy education may also be beneficial for students seeking to enhance their knowledge in this field. This study suggests that active engagement can enhance students' understanding of energy literacy and environmental awareness.

These experiential learning activities not only deepen their

understanding energy-related in matters but also instills behavioral change to act for the environment. active Through immersion. the students develop can а comprehensive set of skills and mindset conducive in addressing the challenges of sustainable energy and environmental conservation.

For future works, it is imperative to undertake parallel study involving and more larger diverse а participants. Expanding the scope by including students and non-students can provide a more comprehensive understanding of energy literacy across different demographics. Additionally, the study recommends to examine alternative antecedents aside from environmental awareness predicting energy literacy. This approach can uncover additional factors influence that may or individual's contribute to the proficiency in energy-related matters, enriching the existing knowledge base and offering a more nuanced perspective on the determinants of energy literacy. The study further suggests to investigate the long-term impact of enhancing energy literacy on sustainable behavior, measuring whether increased awareness translates into environmental-friendly practices over Exploring time. innovative teaching strategies may also provide insights into optimizing energy education for diverse group of Lastly, students. conducting cross-cultural studies to examine how cultural context influence perceptions of energy literacy and environmental awareness could contribute to developing tailored educational strategies for a given group of students.

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A Policy Brief on CMO 15 s. 2019: Strategies for Enhancing Educational Research Productivity in Philippine Higher Education Institutions

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ABSTRACT

The internationalization in higher education drives the Commission on Higher Education (CHED) to release new Policies, Standards, and Guidelines for Graduate Programs, also known as CMO 15 s. 2019, wherein the "Publish, or No Degree" policy is implicitly stated. Furthermore, graduate education in the Philippines faces quality and research productivity challenges, as highlighted in the Second Congressional Commission on Education (EDCOM) II report. Thus, this policy brief explores the educational research productivity in the Philippines using the lens of the international perspective and offers recommendations to strengthen the Philippine internationalization in higher education. The recommendations are divided into three before (Rigorous Assessments based on parts: the Institutional Admission Process Criteria). during (Implementing and Monitoring Research Practices; Strengthening Institutional Resources: Infrastructure, Funding, and Networks; and Engaged Pedagogy for Research Collaboration), and after (Evaluation of the Published Research). The Philippine government, through the Commission on Higher Education (CHED), must focus on talent cultivation by providing the necessary support system mechanisms to increase students' research productivity.

Keywords: CHED Memo 15, EDCOM II, Graduate Education, Higher Education, Internationalization, Philippines, Teacher Education



INTRODUCTION

The "Publish, or No Degree" policy in higher education has become a crucial tool to propel graduates into the competitive world of research production. driven bv the of internationalization higher education and the neoliberal agenda. In countries like China, the paranoia of publishing on the Web of Science, particularly in the Social Science Citation Index, is needed for the salvation of the faculty's promotion (Liu et al., 2020), resulting from being leading contributor the to the international higher education journals (Zhao al., 2024). et Nevertheless, researchers such as Lee (2014) have disagreed with evaluating "scholarliness" only based on indexes or journal impact factors instead of considering its impact on knowledge production and improvement of the the field. Before trend of the internationalization of higher education, students intended to enroll in graduate programs primarily for promotional purposes (McGrail et al., 2006).

The policy compelled students to publish their work in every available journal for compliance (Vaidyanathan, 2019), resulting in students feeling pressured to publish their work in a journal with questionable ethical standards (Mertkan et al., 2022). At the same time, the recent development of artificial intelligence has introduced a new concern about retracted articles that were peer-reviewed and published in a high-quality journal concerned with violating research ethics Moreover, (Liverpool, 2023). the highest number of retractions comes non-native **English-speaking** from countries such as Saudi Arabia, Egypt, Pakistan, Russia. China, Malaysia, Iran, and India (Van Noorden, 2023).

Philippine Context of the "Publish or

No Degree Policy"

Undoubtedly, the internationalization movement of higher education is the leading cause of this policy change (Shamsi & Osam, Internationalization 2022). gained popularity in the early 2000s prompting 2019). (Buckner, the Philippines to adapt actively to the changing international landscape. The internationalization policy in Philippine higher education may be traced back to the Commission on Higher Education memo Order (CMO) No. 1 series of 2000, which served as the first documented policy guiding Philippine institutions about foreign partnerships (CHED, 2000). In 2016, the commission updated the previous policy to a more explicit one that included the notion of internationalization at home, the CMO no. 55 series of 2016 (CHED, 2016). In subsequent years, the government recognized the significance of internationalization in higher education, which led to a law to authorize transnational education legally, enabling Philippine universities compete globally to 11448, (Republic Act 2019). In response, the commission also released new guidelines (CMO no. 15 series of 2019) requiring all graduate students with a research component to publish an article (CHED Memo No. 15, 2019).

Despite the recent policy reforms, the Philippine government's report highlights areas in graduate education where there is room for improvement in generating high-quality research overall and enhancing academic standards (Second Congressional Commission on Education, 2024). Moreover, the Philippine education provide institutions failed to researchers with the necessary support due to their failure to recognize the root causes of the problem. Most Philippine universities

have no access to high-quality journals indexed predominantly in Scopus and Web of Science (San Juan, 2023; Wa-Mbaleka, 2015). In addition, there is an issue with the disparity between the expectations of the labor market and the capabilities of graduates (Macatangay, 2023). Quinto (2022) proposes enhancing the mentoring program to assist graduate students in publishing their research. Nevertheless, faculty members themselves face several problems. From the faculty perspective, Filipino researchers face several challenges, including limited time for research, a lack of research training, concerns about rejection, difficulties in writing in English, and issues with funding and institutional support (Tudy, 2023; Wa-Mbaleka, 2015).

ASEAN Research Productivity

Research productivity among the Association of Southeast Asian Nations (ASEAN) countries indicates that Indonesia has the most significant proportion of scientific publication growth. In addition, Singapore has the highest publication citation counts and number of patents, while Malaysia takes the lead in scientific research (Sukoco et al., 2023). According to Guido and Orleans (2020), the Philippines placed 5th in research production in the field of education from 1996 to 2018. Moreover, Khalid et al. (2019) classified the Philippines' internationalization in higher education in the medium group. In this policy brief, the researcher used SciVal data from Scopus since Scopus is used by the two internationally known rankings, Q.S Ranking and Times Higher Education (Elsevier, 2024b, 2024c).



Figure 1. Research Production in Scopus Data between 1996 and 2024

Notes. The data was exported on May 30, 2024. (Elsevier, 2024a).

Figure 1 illustrates the trends of the scholarly output in the ASEAN countries across all types of articles and disciplines in SciVal using Scopus data. According to the statistics, Singapore, Malaysia, and Thailand showed an upward increase between 1996 and 2010. Nevertheless, in 2010, Malaysia surpassed Singapore. In 2013, Indonesia showed a significant improvement; by 2016, it had overtaken Thailand, Singapore and Malaysia regarding the number of published papers. Furthermore,

Vietnam has had a notable rise in the number of publications compared with the Philippines between 2014 and 2020 and has become stable until 2023. However, the Philippines has seen a slight improvement since 2018, although it still lags behind Vietnam, Thailand, Singapore, Indonesia, and Malaysia.



Figure 2. Educational Research Production in Scopus Between 1996 and 2024

Notes. The data was exported on June 4, 2024. (Elsevier B.V, 2024a).

Figure 2 provides insights into the research output of the ASEAN countries in the field of educational research from 1996 to 2024. Between 1996 and 2009, all ASEAN countries had a consistent trend in the number of publications. From 2009 onwards, Malaysia gradually grew in the number of publications. However, in 2018, Indonesia witnessed a significant surge in the number of educational publications. research Similarly, Thailand has seen a consistently increasing trajectory since 2014. Both Vietnam and the Philippines have shown a consistent upward trend in the number of articles published starting in 2018.

This rapid growth can be attributed to the global nature of academia, where publication is a critical factor in many international rankings (Demeter et al., 2022). Universities began focusing on publishing indexed in Scopus due to the two well-known international league tables, the Q.S. Ranking and Times Higher Education, which utilized Scopus data to calculate points for research for the world ranking (Szluka et al., 2023). Furthermore, the CMO no. 15 series 2019 may have played a role in this increasing pattern (CHED Memo No. 15, 2019).

The Trade-Off Debates

According to Amani et al.'s (2022) study in Tanzania, students pursued graduate school primarily for job prospects, greater pay. career advancement, personal improvement, and self-fulfillment. Furthermore, the study focused on the reasons for students' delayed completion of their chosen postgraduate program, with one of these factors being poor entrance qualification, which might be linked to institutional issues. In the Kingdom, United university staff emphasized the importance of student readiness for a positive postgraduate student experience (Macleod et al., 2019). Zhu et al. (2022) argued that the caliber of graduate students plays

a crucial role in determining the overall high quality of graduate education.

Another important consideration for the university is the development of a strong research culture. Studies indicate that research productivity is closely linked to the development of a strong research culture, which in turn affects the recruitment of talented individuals and the quality of postgraduate education (Stanko et al., 2022). Quimbo and Sulabo (2014) found that research production is predicted by incentives, perks, and education levels. However, access to research databases such as Scopus and Web of Science is critical for producing high-quality research despite unrepresented the non-English speaking countries in knowledge production (Tennant, 2020).

Aside from access to academic resources, research collaboration has been shown to correlate positively with productivity research (Contandriopoulos et al.. 2018). Sayyed (2024)observed that international research collaboration may be a predictor of scholarly output production in hard disciplines. Ocampo et al. (2022) academic discipline, research collaboration, and funding allocation have influenced research production. Furthermore, a research collaboration between the student and teacher helps students enhance their independent research skills. On the other hand, teachers anticipate positive outcomes from students who seek their research experience, assistance, creativity, and critical comments for improvements (Abbas et al., 2020).

POLICY RECOMMENDATION

This policy brief explores the educational research productivity in the Philippines using the lens of the international perspective and offers

© 2024 Castulo, N. J. ISSN 3028-2179 recommendations to strengthen Philippine internationalization in higher education. The discussion is centralized into three sections: before, during, and after.

1. Before: Enforcing Rigorous Assessments based on the Institutional Admission Process Criteria

Throughout the Philippines, graduate teacher education admission varies depending on the institution. For example, the National Center for Teacher Education, the Philippine Normal University, requires all incoming postgraduate students to have at least 85% grades. а recommendation letter. and an examination (PNU Website, n.d.). However, some prospective students who have enrolled in the program are uncertain about the direction of their educational research. In some countries, prospective students must provide a personal statement and research proposal to their potential supervisor, participate in face-to-face interviews, and demonstrate relevant work experience (Mirhosseini et al., 2023). It is recommended that robustness assessments be done to identify students' preparedness for a research-oriented degree program.

2. During: Implementing and Monitoring Research Practices

To establish a strong research culture, the CHED Memo No. 15 (2019) became instrumental in establishing research practices in the university. According to Guido and Orleans (2020), graduate students contribute to university research. Nevertheless, it necessitates engaging in activities and organizing seminars, fora, workshops, etc., such as cultivating reading or writing communities (Khoo, 2023). Furthermore, this intervention is not limited to the Global South countries. In Australia, universities see the importance of writing groups,

mentorship, and courses related to writing to help their researcher increase their research production, improve the research quality, and increase their knowledge and skills in doing research (McGrail et al., 2006).

3. During: Strengthening Institutional Resources: Infrastructure, Funding, & Networks

In their study, Demeter et al. (2022) suggested that the various elements that make up the 'faculties' domain in the research productivity model, such academic the environment. ลร infrastructure, funding, and networks, play a crucial role in supporting the growth and productivity of talented individuals for research production. Regarding infrastructure, the universities must have access to academic databases. Networks represent graduate students' capacity to develop connections in the academic world, such as attending conferences, which is one of the effective methods for establishing networks.



Figure 3. Selected State Universities Research Funding Between 2019 and 2024

Source: (Department of Budget and Management, 2024) *R.P. means Research Program.

In most cases, university graduate students are not funded to conduct Figure research. 3 displays the research program allocations of the selected state universities from 2019 to 2024. The University of the Philippines, Mindanao State University, MSU-Iligan Institute of

Technology, Central Luzon State University, and State Visayas University were the five state universities that received the most budget allocation for their research programs. Unfortunately, rather than increasing the allocation of funds annually, the research budget for 2024

is less in comparison to prior years. wav of Another enhancing internationalization is by recruiting adjunct or visiting professors, which aids universities in improving their institutional development and visibility (Henningsson & Geschwind, 2019; Vorkapic, 2016). Therefore, it is recommended strongly that the Philippine government allocate more funds to support internationalization particularly financing, the subscription to top-notch journals or academic databases (i.e., Scopus and Web of Science), and provide students with access to research funds for their research projects or participation in academic conferences.

4. During: Engaged Pedagogy for Research Collaboration Between Student and Teacher

One of the problems for some Filipino academics is the "laziness" of doing research (Wa-Mbaleka, 2015). Moreover, in a study by Ulla et al. academics (2021),doctoral play multiple roles besides being teachers and researchers. To address these challenges, professors supervising graduate students should implement engaged pedagogy to support students in their research endeavors. As bell hooks (1994) asserts, "Professors who expect students to share confessional narratives but who are themselves unwilling to share are exercising power in a manner that could be coercive (p.23)." Thus, professors must foster a collaborative research environment through engaged pedagogy. Engaged pedagogy was popularized by bell hooks to encourage students and teachers transgress towards to learning (hooks. 1994). Helping students publish their work in a highquality journal, despite the Philippines's socioeconomic situation, is a way of teaching graduate students to transgress. Quinto (2022) has been vocal about providing a mentorship

program for the students paired with supervisors or teachers. the In addition, Adevemo (2019)also encouraged Philippine academics to promote research collaboration at national, regional, and international levels. Tudy (2023)noted that publishing high-quality journals needs time, patience, and guidance. It is crucial to have a strong mentorship program support graduate to students.

5. After: Evaluation of the Published Research

The CHED Memo No. 15 (2019) requires students to publish research not only for the internationalization agenda but also for realizing the Sustainable development goals (U.N., 2015) and the Ambisyon Natin 2040. Despite some scholars argue that it is impossible to "view sustainability" in higher education (Corcoran & Wals, 2004), it is recommended that each the Philippine university or Commission on Higher Education create an evaluation platform for all graduate students' research papers, including faculty researchers and government researchers matching on the Sustainable development goals or the Ambisyon Natin 2040. By doing so, policymakers acquire knowledge and formulate a policy that is grounded in research discoveries or evidencebased. See the example from Universiti Brunei Darussalam (UBD, 2024).

In addition, the Philippines may also build a database like Preprint, a new academic publishing model, to monitor all research progress that ensures quality and avoids future retraction. Some journals allow authors to upload to a preprint website an assigned Digital with Object Identifier (DOI). In addition, this new model allows everyone to see the paper to avoid duplication and can help improve it until it is published. In addition, the platform or database I

suggested allows the Commission on Higher Education (CHEd) to evaluate the article to avoid future retraction. The Retraction Watch database tracked the number of publications retracted across multiple academic publishers (Retraction Database. 2024). Malaysia recorded 663 retractions, significantly higher than ASEAN countries. Singapore follows with 213 retractions. Thailand (182 Indonesia retractions). (177)retractions). and Viet Nam (111)retractions) have comparable numbers of retractions with less than 200. Fortunately, the Philippines has a modest retraction rate, with 69 retractions lower than its ASEAN member countries. Cambodia has the fewest retractions, with six; Myanmar has eight; Brunei Darussalam has seven; and Lao PDR two. has Therefore, to prevent the increasing number of retracted articles, it is essential to assess each published research through an evaluation platform while strictly adhering to ethical compliance.





Note: The author made this figure via Canva.

According to a study by Guido and Orleans (2020), the Philippines is projected exceed Singapore's to bv research productivity 2021. However, according to the data presented in Figure 2, the prediction Nonetheless. was not met. the Philippines ranked fifth in educational research production but sixth across all fields. The implementation of CMO 15 s. 2019 of the 'Publish, or No Degree" policy and the compliance with CMO No. 53, 2007, students must finish their master's degree within five years and nine years for

© 2024 Castulo, N. J. ISSN 3028-2179 doctoral students while navigating the requirement of research publication (Castulo et al., 2024). The framework (Figure 4) ensures the quality of educational research production and enhances the quality of Philippine graduate education. Filters. mechanisms, and sharing are necessary indicators for high-quality, ethical, and safe research across all disciplines, particularly in educational research. Adevemo (2019) observed that the Philippines's demographic and economic status is detrimental to internationalization and to ASEAN

regionalization. Adeyemo (2023) emphasized that the process of internationalization, as influenced by global ranking, plays a crucial role in addressing inequality and enhancing global policies and governance.

CONCLUSIONS

Talent cultivation is fundamental to building the Philippines' research and development to be at par globally. While there is no way to escape this burgeoning system under neoliberalism, the only solution is to exercise caution with the rules they have made in the internationalization of higher education. Moreover, the poor quality of graduate education, as described by the Second Commission Congressional on Education (EDCOM) (2024), can be attributed to the lack of necessary support system mechanisms provided by the Philippine government for Filipino graduate students. References

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Revolutionizing School Autonomy: Insights from the School-Based Management (SBM) System in the Philippines

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ABSTRACT

This study examines the School-Based Management (SBM) system in the Department of Education schools in the Philippines. This mechanism decentralizes the governance of the country's primary education system. It grants autonomy to the local school's key leaders and players in its daily operation, academic production, and school conditions. This paper investigates its implementation, revealing three challenges encountered by its implementers and researchers. and proposes actionable items for its enhancement. The researchers reflect on these and implicate policies that can serve as standpoints of improvement for the system. This material will be an insightful resource for SBM key leaders and players, policymakers, and researchers seeking to advance the cause of education in the country.

Keywords: Local School, School Autonomy, School-Based Management, School Operation

INTRODUCTION

The School-Based Management (SBM) system holds the operating principle of the dynamics of autonomy afforded to local school operations. Studies display its significant effects on the edifice of academic institutions, providing quality education (Rohma et al., 2022; Iswan et al., 2021; Bafadal et al., 2019). Similarly, SBM affects the community's perception of the school, as reflected by the high involvement of different stakeholders in participatory decision-making (Bandur, 2018: Elmelegy, 2014). The nexus of positive findings on its role in fostering quality education has enticed agencies globally to incorporate it into their systems.

In the Philippines, the Department of Education (DepEd) issued the SBM system to enrich school operating conditions in the early 2000s (World Bank Group, 2016). Believing that the global trend can provide better school stances, the agency acknowledges the importance of decentralizing school operations and encourages local vital enforce it. Published players to relative materials to SBM disambiguating its successes and misgivings helped researchers find insights about its operations (Roque, 2023; Ballarta et al., 2022; Bucud, 2018). Accordingly, the mechanism catalyzes the junction of good school governance, academic performance, and community presence. Varying

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methodologies inquiring about its potency have affirmed its strength, enabling academic institutions to be foundations of greatness.

Nevertheless. the ever-evolving landscape of the educational system keeps bringing a wide array of fresh challenges to the school gates. The challenges vielded perennial difficulties that hamper the proceedings of SBM and drag its operations to pace the implementing institutions towards their grand vision slowly. This phenomenon permeates the corpus of educational management and leadership themes, keeping the always demanding area deeper explorations. This analysis intends to be a contribution to these necessities.

This brief critically policy investigates the SBM system across the country and scrutinizes its operation through case studies, reports, agency memoranda, and presentations. This study proposes revolutionizing the mechanism with adaptive countermeasures capable of dealing with the rising challenges of the times. The revolutionized SBM assumes efficacious means of dealing with the threats that the challenges project and implicate new policy considerations across government agencies.

THE SCHOOL-BASED MANAGEMENT (SBM) SYSTEM IN THE PHILIPPINES

The SBM mechanism ushers in innovation in avenues of the multifaceted operations local of schools (Maca, 2019). School canteen management, governance, development, infrastructure ICT integrations, classroom instructions and management, and other aspects benefit heavily from implementing this autonomy-granting mechanism. Implementers of this system initially focused on fundamental dimensions:

© 2024 Manuel et al. ISSN 3028-2179 autonomy, participation in decisionaccountability, making, and transparency in its earlier operations (World Bank Group, 2016). The agency kept modifying the system's operation to ensure better implementation among its schools. In 2021, DepEd issued a memorandum to reconstruct the SBM mechanism into six new dimensions: leadership, curriculum and instruction, finance and resource management and mobilization, governance, human resource and team development, and the learning environment. Each dimension has rubric descriptors that dictate the levels a school should comply with for classification. Means of Verification (MOV) documents are necessary to prove the presence of the descriptors in the school operation. The SBM school nomenclature comprises four levels, with one being the lowest tier (DepEd, 2021). The agency provides training for the monitoring teams across all schools to ensure that the teams can objectively assess the local schools for tier categorization. DepEd (2023) issued better support systems and endorsed a mechanism for delivering technical assistance to support and assist division offices and local schools in achieving good SBM tiers. Chavez and Doromal (2018) recognize the agency's efforts in supporting the schools, leading to a working mechanism for schools to comply.

This decentralizing approach to school governance has undeniably influenced the production of positive impacts in different settings. Studies elucidate that stakeholders perceive the SBM as a promising avenue for connecting to the school leadership network, suggesting its and enhancement. resumption, and development (De Lara & Panares, 2023; Obias, 2023). Different studies concerning these dimensions reveal insights displaying high satisfaction levels (Pasubillio & Asio, 2023;Capacite, 2021; Anub, 2020), and the

school's key players' performance correlates to the significant values materials showcase. these The confidence towards SBM observed in promotes these studies the mechanism as a trustworthy system of contributing capable to the educational visions of the country.

Figure 1. Dimensions of SBM



The SBM system in the Philippines could be more novel regarding its Other ASEAN global presence. showcased countries have their integrations of SBM, highlighting its role in their educational aspirations. Explorations in Malaysia present the strong presence of the mechanism in their local schools. However, their autonomous svstem navigated differently and anchored itself on two models, the administration control and the professional control SBMs (Isa et al., 2020; Vally & Daud, 2015). In both Indonesia and Thailand. SBM has been mandated among the local government schools since the early 2000s. hoping augment the to difficulties in their local school operations (Bandur et al., 2021; Jihan et al., 2023; Hardiansvah, 2022; Setiawan, 2021). The presence of the neighboring system in countries encourages local agencies to establish mechanisms in their schools.

Implementing SBM in the © 2024 Manuel et al. ISSN 3028-2179 Philippines enriches student experiences in academic enterprises. With the autonomy granted at the school level, school leaders and teachers enjoy the instructional liberty and management granted within its premises. SBM is pivotal to these privileges that lead to transformative institutions. Hence, optimizing its mechanism is essential to realize maximal academic production.

ANALYZING THE CHALLENGES IN SBM

The typical agenda among all of implementing agencies SBM, irrespective of setting, is to achieve optimal school conditions and academic output. Nevertheless, the presence of challenges hinders the positive influence of the mechanism on school operations, causing a slower pace of advancement toward progress. School leaders receive repeated memoranda on visiting monitoring teams, and teachers rush their way between their classrooms and MOV preparations.

Studies reveal common challenges implementing nationwide in the system in different settings. One is the managerial need for better competencies among the school leaders (Alvarado et al., 2019; Mante, 2023; Berhanu, 2023). This challenge implicates the school heads and critical players tasked with accomplishing SBM tasks. Berhanu emphasizes leadership (2023)challenges consisting of indifference towards the SBM tasks and the low administrative capacity of the SBM key leaders. Considering the findings of Desamparo and Barrameda (2019), who posit that school leaders ought to enhance their competencies relative to community building. curriculum and educational management, administration. the observations regarding skills are justified. Chua (2019) dissects Republic Act 9155, or the Governance of Basic Education Act

of 2001, which gives provisions for school leaders' empowerment amidst the educational crisis in the country, including dysfunctional bureaucracy and systemic corruption. These problems in the agency placed school leaders in institutions whose skills could be better in managing SBM phenomenon demands. This aggravates the complex mechanism of SBM as a strong relationship between leadership competencies and SBM implementation significantly impacts one another (Origines, 2022).

Another problem observed in the practice of SBM is related to the dimension of the learning environment. This dimension emphasizes the infrastructural aspects of the school relative to safety, security, and innovative features. However, one of the disconcerting challenges is the disparity of educational infrastructures, which leads to weak learning environments in some areas (Marasigan et al., 2021; Villanueva & Cruz, 2021). While the agency constructed present schools considering seismic activities and typhoon- disasters, other parameters in this dimension must comply with the same emphasis (Nassirpour, 2018; Rico, 2022). For example, Chavez and Doromal (2018) reveal this disparity among their participating schools, wherein some could provide optimized learning environments while others could not.

Studies also raise issues around the authenticity and veracity of the MOVs (Osea, 2023). Lopez (2022) posits similar findings concerning confounding documents when schools display inconsistent and improper documentation. SBM nomenclature levels have a strong contingency on the MOVs presented during monitoring, concerns related and to the authenticity of these documents raise questions about the genuineness of the school operation itself. Regardless of the dimension presented, doubt on

© 2024 Manuel et al. ISSN 3028-2179 the veracity of the materials cast questions on the leadership, values, network, and collaboration of the key players. Moreover, this leads to a complicated mark of the school's compliance regarding its SBM tier level.

Figure 2. School-Based Management Challenges



Schools are continuously challenged with underdeveloped portions of the SBM mechanism yet utilize everv means possible to overcome it. The researchers found three significant challenges in this study: managerial competencies of SBM key players, needing more educational infrastructure. and confounding presentations of MOV documents. The following section provides feasible action items intended to address the analyzed challenges of the system.

REVOLUTIONIZING THE SBM: A RESOLUTION

Recognizing the positive influence of the SBM system on the local school operation, this resolution proposes to boost its implementation amidst its present challenges since studies show that SBM contributes to better stakeholder engagement to shared leadership (Pasubillio & Asio, 2023; Capacite, 2021; Anub, 2020) and school overall academic production (Rohma et al., 2022; Iswan et al., 2021; Bafadal et al., 2019), the paper recommends to keep the solid stances and strengthen its needy sections.

Several resolutions are proposed concerning the low managerial competencies of key leaders and players in SBM administration. Since critical leaders and players are already in place, training workshops should be prioritized to improve the necessary knowledge and competencies in dealing with SBM tasks. It will help if particular leaders are in place for a long time to give critical people high levels of exposure, leading to mastery of the competencies demanded by the mechanism. This proposed training may address Alvarado et al.'s (2019) and Mante's (2023) concerns about the leaders' observed lack of managerial skills. Moreover, since SBM is an institutionalized framework adhered to by the DepEd schools, it will help all teachers to have the system ingrained in all training, starting from the teacher induction program (TIP).

Rigorous support from the technical support teams will also boost the presence of key players in accomplishing the demands of the six dimensions of the system. This will deload burden the chief players and personnel include more in accomplishing SBM-based tasks. Similarly. Berhanu's (2023)observation about indifferent leaders will be forced to engage more since the mechanism will be felt more than just a program but as an institutional framework to abide by. In doing so, the of Desamparo suggestion and Barrameda (2019) will be realized in an orderly manner since the SBM framework will be ingrained in the entire career of a DepEd teacher from induction to SBM role assumption.

Figure 3. Revolutionized School-Based Management



The issue raised on the school infrastructures that do not meet SBM standards may also be approached differently. Presently. DepEd categorizes schools into small. medium, and large based on the number of student population. It allows benchmarking within schools to practices learn the best and infrastructure of high-tiered schools. One feasible resolution utilizing this system is to enforce regular tier-based benchmarking. This will provide the exposure of schools with the same level of funding to construct structures appropriate to their level. The disparity observed by Chavez and Doromal (2018), while undeniably exists, may be acknowledged but will be addressed since the agency provides levels of standards for schools to adhere to. Considering this, the observation regarding lacking and underdeveloped infrastructures may be resolved. Even small schools with low funds can comply with SBM standards by considering necessary items in their environment as set by their tier. The unequal emphasis of schools that leads varying levels to of infrastructures regarding environmental aspects (Marasigan et al., 2021; Villanueva & Cruz, 2021), while remaining unequal, can be addressed bv constructing ideal considerations. Hence, compliance with the SBM demands is essential regardless of the school's tier.

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Moreover, schools can organize community-based projects to alleviate the difficulties set by their limited stakeholders funding. The can organize different ways of helping their comply with local schools the standards considering environmental infrastructures. Ensuring that the community-based funding assistance does not violate agency mandates is essential in pursuing this action.

deploying Lastly, external monitoring teams may address the observed issues on the MOV confounding documents. Supposedly, the technical support teams organized bv the agency can ensure the authenticity. consistency, and coherence of the documents as proof of tier compliance. The similar findings of (2023)Lopez Osea and (2022)regarding these documents may be avoided by having external SBM accrediting units evaluate objectively. The common bureaucratic approach in organizing monitoring teams from the agency has a lesser presence since the external evaluating team does not have any ties with the school observed.

CONCLUSION POLICY IMPLICATIONS

The challenges investigated in implementing the SBM mechanism provide valuable perspectives toward providing quality education to the country's young generation. Similarly, these weak perspectives serve to strengthen the system for better operation. This process implicates policy considerations to help the local schools generate a better system of the SBM.

1. Robust SBM Exposures in Teacher Education Institutions Higher education institutions (HEI) offering education courses should heavily consider their students' longer and deeper exposure to the local DepEd

© 2024 Manuel et al. ISSN 3028-2179 schools. Institution representatives should collaborate with the SBM key leaders and provide involvement opportunities for students deployed in their schools. Familiarity with the SBM mechanism will be built at this phase, benefiting the student's learning and performance. It also prepares student-teachers to assume benchmarking exposures and helps them think of innovations within the limits of their host schools.

- 2. SBM-Specific Year-Long Program DepEd schools organize inservice training for professional teachers twice every academic year. SBM-specific programs beyond the in-service training will help the schools develop a
 - better awareness of accomplishing their demands, especially if the mechanism keeps developing and introducing dimensions. Considering the strong presence of the SBM in the school operation, organizing activities year-long that promote awareness of the roles and tasks of key players and leaders will help strengthen its implementation. This also helps improve the organization of MOV documents without veracity, authenticity, and consistency issues.
- 3. Better Agency Funding Education receives good funding in the country, but morality is needed at the infrastructure levels. Improved funding for educational needs can help the schools operate in better settings, considering the various aspects of the proposed strengthening in SBM training and workshops, environmental dimension, and allowance for the provision of an external



accrediting	team	to	evalu	ıate		
SBM	acco	ompl	ishm	ent.		
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generating better students.						

This investigation of the studies concerning school-based management presents various challenges, and this brief provides actionable resolutions. While the vision of an institution providing quality education to its constituents still stands at the operation's helm, challenges hamper the agency's progress toward its goal. study admits This the factors contributing to these challenges but affirms resolutions capable of helping the schools operate optimally. Considering the proposed resolution, strengthening the SBM system will significant implicate policies in optimizing school performance. Future explorations on how the proposed resolution and policy implications actualize at the grassroots may be considered locally and internationally in the different SBM tiers. Case studies in local schools and field studies on student-teachers deployed in these schools may also be considered for future research directions.

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This study was conducted without any request for external funding. The authors report that there are no competing interests to declare.

DECLARATION OF GENERATIVE AI IN SCIENTIFIC WRITING

The authors did not appeal to any AI-generating application in writing any section of the paper.

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ETHICAL CONSIDERATIONS

© 2024 Manuel et al. ISSN 3028-2179 Research ethics was capitalized in the study to ensure integrity and respect. Fairness, accountability, and equity were heavily emphasized in formulating the proposal in the paper

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